On COLEOPTERA, mostly from Queensland.

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(Contribution from South Australian Museum.)

(Plate XIII.)

There are probably in Queensland more species of beetles than occur in the rest of Australia, and the wealth of life in its coastal districts can be surpassed in but few parts of the world; so far as these are concerned many of the species extend into the "Big Scrub" and Illawarra districts of New South Wales, and in the Far North many New Guinea and Malayan forms occur. Comparatively few districts in Queensland have been well worked for beetles; the Brisbane district (including Mount Tambourine and Moreton Bay islands), Gayndah, Cairns (including Kuranda, Atherton, Malanda, &c.), Rockhampton, Bowen (Port Denison), Cooktown (Endeavour River), Somerset (including Thursday Island), Townsville, and a few other coastal towns have been comparatively well worked, but the islands north of Brisbane and in the Gulf of Carpentaria, and almost the whole of the western districts, have been greatly neglected.

Even in the comparatively well-worked districts the smaller species are often overlooked, the passing collector usually keeping a watchful outlook for large or brilliant species; neglecting the minute forms that must be searched for on sea-beaches, amongst fallen leaves, in moss, associated with ants, and that may be seen in enormous numbers during floods.

Specimens of all the species here described as new are in the collection of the Queensland Museum; many were originally taken by Mr. Henry Hacker, the entomologist of that institution.

Family NITIDULIDÆ.

CYCHRAMUS PICTICOLLIS sp. nov.

Castaneo-flavous, or flavous, some parts more or less deeply infuscated or black. Moderately densely clothed with subdepressed, ashen pubescence.

Head wide; with fairly dense and sharply defined but subasperate punctures; labrum rather feebly bilobed. Antennæ with third joint thinner than second, and about once and one-half as long; club large, almost twice as long as wide. *Prothorax* rather strongly and evenly convex, base more than twice as wide as the median length, sides strongly rounded and very finely margined, hind angles rounded off, apex about half the width of base, and rather deeply emarginate; punctures not quite as dense as on prothorax. *Scutellum* large and semicircular. *Elytra*, when at rest, with outlines continuous with those of prothorax, sides feebly diminishing in width from near base, apex widely

rounded; punctures much as on prothorax; nonstriated. Intercoxal process of *prosternum* just passing hind coxæ, its tip truncated; middle coxæ separated slightly more than front ones, and about half the distance of hind ones. *Legs* stout, three basal joints of front and of middle tarsi wide, of the hind ones rather narrow. Length, 3-4·5 mm.

Hab.—Northern Queensland (Blackburn's collection); Brisbane (H. Hacker and C. McGregor). New South Wales: Dorrigo (W. Heron).—Type, *I. 12058* in South Australian Museum; cotype, *C/2270* in Queensland Museum.

The markings of the prothorax readily distinguish this species from *C. niger* and all others known to me. The dark parts vary from rather lightly infuscated to deep black; they irregularly cover the head between the eyes and about two-thirds of the prothorax, so that several pale spots are enclosed in front, and the hind margin has four lobes; the elytra vary from entirely pale, or with the sides faintly infuscated, to almost entirely dark, but usually they have a large obscurely pale triangle about the scutellum; the club (except part of the apical joint) and parts of the metasternum are also dark. The dark markings of the head are usually extended so as to leave but two small pale spots at the base; on one Brisbane specimen the prothoracic markings are reduced to three irregular, disconnected, infuscated spots. On many specimens the abdomen is covered by the elytra, on others part of the pygidium is exposed.

CYCHRAMUS INCONSTANS sp. nov.

Colour and clothing variable.

Head with rather dense but partially concealed punctures; clypeal suture shallow and semicircular; labrum deeply notched. Antennæ long and thin, first joint slightly longer than third, and about thrice the length of second, ninth elongate-triangular, apex incurved, tenth shorter than ninth but of the same width and longer and slightly wider than eleventh, sides gently rounded, apex incurved, eleventh subcircular. *Prothorax* at base more than twice as wide as the median length, sides strongly rounded and finely margined, apex gently incurved to middle, and about two-thirds the width of base; punctures as on head. *Scutellum* rather large and semicircular. *Elytra,* when at rest, with sides continuous with those of prothorax, gently decreasing to apex, leaving most of pygidium exposed; punctures dense, partially concealed, and more or less asperate. Intercoxal process of *prosternum* evenly convex, truncated posteriorly. *Legs* stout, three basal joints of front and of middle tarsi wide, of the hind ones less wide. Length, 4-8 mm.

Hab.—Queensland: Cairns (Macleay Museum, H. Hacker and A. M. Lea); Barron Falls (A. Koebele); South Johnstone River (H. W. Brown).—Type, *I. 12063* in South Australian Museum; cotype, *C/2271* in Queensland Museum.

The long antennæ with loosely articulated club are at variance with other species of *Cychramus,* but as I am not prepared to propose a new genus for the

reception of the present species it has been referred to that genus. The seven specimens, under examination, appear to belong to but one species, although no two are alike in their size, colour, and markings. The type is 5 mm. in length, of a dull reddish-brown colour, with two elongated dark spots on the pronotum and some vague infuscations on the elytra; it is rather densely clothed with ashen pubescence, becoming denser on the scutellum, and on an apical triangle on the elytra; the triangle commences on the suture just beyond the middle, and is dilated so as to cover the entire apex; it is distinct on all the specimens and accentuated by a dark oblique line on each elytron immediately before it, although on two specimens the dark lines are very faint. The largest specimen is somewhat paler than the type, and has four spots on the prothorax (the lateral ones very feeble) and one on each shoulder, in addition to the postmedian ones; three specimens are darker, with the dark markings on the prothorax ill-defined, and the elytral markings connected so as to appear like a reversed M. The smallest specimen is entirely pale, the oblique lines before the apical triangle being represented by semi-nude spaces that are scarcely perceptibly infuscated. On some specimens the club is hardly darker than the rest of the antennæ. The sides of the prothorax are usually widest almost at the base, but on several of the smaller ones the greatest width is median; the emargination of the apex is an even incurvature, not a three-sided incision as on others of the genus; there are vague remnants of striation on the elytra.

GYMNOCYCHRAMUS nov. gen.

Head wide between eyes; clypeus narrow, hind suture obliterated; labrum rather large, deeply bilobed. Eyes fairly large, lateral, prominent, moderately faceted. Mandibles strong, dentate near apex. Antennæ thin; club large, compact, almost circular, three-jointed. Palpi small, approximate at base. *Prothorax* wide, sides finely margined and strongly rounded. *Scutellum* large, semicircular. *Elytra* covering abdomen except part of pygidium. *Prosternum* in middle about half the length of pronotum, ridged along middle in front, produced as an equilateral triangle behind coxæ, the tip of the triangle marking the summit of an acute ridge; coxal cavities large, transverse, each closed by a narrow strip. Metasternum elongate; axillary piece on each side rather wide and traceable, but very narrow, to beyond the middle. *Abdomen* with first segment, along middle, longer than fifth, the others short and equal. *Legs* rather short and stout; femora grooved and edentate; tibiæ with two spines at inner apex, the front ones with a strong spur at outer apex; tarsi with three basal joints, wide and densely clothed on under surface, fourth small, fifth long and thin.

Allied to *Cychramus*, but labrum more conspicuously notched, intercoxal process of prosternum triangular posteriorly, and upper surface polished and glabrous; the notch in the labrum is so deep that, from behind, it appears to extend to the clypeus; there is a groove in front of each eye for the reception of the basal joints of antennæ.

GYMNOCYCHRAMUS POLITUS sp. nov.

Blackish, or dark reddish brown; scutellum, mesosternum, metasternum, abdomen, and antennæ (except club) more or less castaneous. Upper surface glabrous and polished; under surface and appendages sparsely pubescent.

Head across eyes about one-third wider than at base; with fairly dense and sharply defined but small punctures; a deep impression at each side of clypeus; lobes of labrum with a short but distinct fringe. Antennæ with basal joint stout, slightly larger than each lobe of labrum, second small, about half the length of third, and slightly shorter than fourth, ninth and tenth widely triangularly excised at apex, eleventh with its tip slightly produced in middle. *Prothorax* evenly convex, base about twice as wide as the median length, sides strongly rounded and finely margined, apex semicircularly emarginate and about half the width of base, front angles rounded off, hind ones slightly produced and feebly clasping shoulders; towards sides with minute punctures, the middle impunctate or almost so. *Scutellum* impunctate, at base the width of three elytral interstices. *Elytra* at base slightly narrower than prothorax, sides narrowed and finely margined to apex; with rows of distinct but not very large punctures, towards the sides and apex the rows with feeble evidences of striation; interstices with minute punctures. *Abdomen* with a row of punctures at the base of each segment, the apical segment and the pygidium with numerous punctures, slightly coarser than on head. Front tibiæ finely serrated externally, the apical spur slightly curved, and about two-thirds the length of claw-joint. Length, 5·5-6·5 mm.

Hab.—New South Wales: Richmond River, in fungi.—Type, *C/2272* in Queensland Museum; cotype, *I. 12056* in South Australian Museum.

On several specimens the elytra are deep black, on one the head and prothorax are reddish-castaneous, on all of them the scutellum is the palest part of the upper surface. The flap-like margins of the prothorax, as seen from below, are about twice as wide at the base as at the apex.

CIRCOPES VAGANS sp. nov.

Black; antennæ, palpi, and legs more or less castaneous. Densely clothed with depressed ashen pubescence, on the elytra in numerous closely placed series.

Head with fairly dense, partially concealed punctures. Antennæ short, club almost circular. *Prothorax* evenly convex, base more than twice as wide as the median length, sides strongly rounded and very finely margined, hind angles slightly embracing shoulders, apex moderately emarginate, about half the width of base; punctures much as on head. *Scutellum* rather large and semicircular. *Elytra* at base slightly narrower than prothorax, sides feebly diminishing in width to apex; with numerous regular rows of subasperate punctures, becoming irregular about tip; not covering pygidium. Intercoxal process of *prosternum* slightly produced beyond coxæ and obtusely pointed. *Legs* rather short and stout. Length, 2-2·25 mm.

Hab.—Northern Queensland (Blackburn's collection); Cairns (F. P. Dodd); Brisbane (H. Hockings); Stradbroke Island (J. H. Boreham and H. J. Carter); Bribie Island (H. Hacker and A. M. Lea). New South Wales: Dorrigo (W. Heron); Sydney (Lea). Northern Territory: Darwin (W. K. Hunt).—Type. *I. 12042* in South Australian Museum: cotype, *C/2273* in Queensland Museum.

Structurally close to *C. adelopiformis,* but derm of upper surface usually entirely dark. The club of the antennæ is usually infuscated, but is often no darker than the other joints; on a few specimens the basal angles of the prothorax are obscurely reddish, and on many parts of the prosternum and the tips of the elytra are also obscurely reddish. There are about twenty lines of pubescence on each elytron.

CIRCOPES CASTANEUS sp. nov.

Castaneous; under surface, legs, and antennæ somewhat paler than upper surface. Rather densely clothed with depressed pale pubescence. Length, 1·25-1·5 mm.

Hab.—Northern Queensland (Blackburn's collection); Cairns district (E. Allen, F. P. Dodd, H. Hacker, and A. M. Lea); Dunk Island (F. E. Wilson from C. L. Barratt).—Type. *I. 12043* in South Australian Museum; cotype. *C/2274* in Queensland Museum.

Structurally very close to the preceding species, from which it differs in being paler and much smaller; it is also decidedly smaller and somewhat darker than *C. adelopiformis.* The lines of pubescence on the elytra are as numerous as on the preceding species, but the alternate ones are rather less even.

CARPOPHILUS SUTURALIS sp. nov.

Blackish brown; muzzle, sides of prothorax, scutellum, shoulders, sides, suture, and tips of elytra, under surface, legs, antennæ, and palpi more or less castaneous. Moderately clothed with depressed ashen pubescence.

Head with dense and sharply defined but rather small punctures: a small depression on each side in front. Antennæ short, club almost circular. *Prothorax* about once and one-half as wide as long, sides finely margined, parallel on basal half, evenly rounded in front, apex gently incurved to middle; punctures in middle of apex much as on head, somewhat larger elsewhere. *Scutellum* semicircular; with distinct punctures, except at tip. *Elytra* at base slightly wider than median length, sides almost parallel, tips obliquely narrowed to suture; punctures at base more crowded than on base of prothorax, but no larger, becoming smaller and sparser posteriorly. Dorsal portion of *abdomen* subtriangular, and with dense, sharply defined punctures on the two exposed segments. Length, 3-3·75 mm.

Hab.—Northern Queensland (Blackburn's collection); Bribie Island (H. Hacker and A. M. Lea). New South Wales: Sydney (Lea).—Type, *I. 12049* in South Australian Museum; cotype, *C/2275* in Queensland Museum.

An ordinary-looking species, not as dark as *C. planatus,* slightly more convex and with more sharply defined elytral punctures; larger than *C. dimidiatus,* and differently coloured. Some specimens are of a very dark brown, with the paler parts of the upper surface narrow and rather sharply defined; others are paler, almost uniformly castaneous-brown, with the paler parts less defined.

ÆTHINODES VARIABILE sp. nov.

Colours variable. Moderately clothed with depressed, pale pubescence.

Head with dense punctures between eyes (these prominent), a narrow impressed line at base, and two impressions in front. Antennæ rather short, club briefly elliptic. *Prothorax* slightly more than twice as wide as long, base gently bisinuate and about one-fourth wider than apex, hind angles acute and slightly embracing shoulders, sides somewhat flattened, rather strongly rounded in front, apex gently incurved to middle, with fairly dense subasperate punctures of moderate size, becoming smaller in middle of apex and on sides. *Elytra* with outlines continuous with those of prothorax, sides strongly rounded beyond middle, with fairly deep punctate striæ, the punctures larger towards base and striæ deeper towards apex; interstices rather narrow, the alternate ones slightly more elevated. Intercoxal process of *prosternum* continued beyond coxæ, its tip triangular. *Abdomen* with tip frequently uncovered by elytra; basal segment almost as long as three following combined. Length, 2-2·5 mm.

Hab.—Queensland: Cairns district (E. Allen, F. P. Dodd, H. Hacker, No. 929, and C. J. Wild); Mount Tambourine. New South Wales: Ourimbah, National Park (A. M. Lea).—Type, *I. 12051* in South Australian Museum; cotype, *C/2276* in Queensland Museum.

In general appearance like *A. marmoratum* on a greatly reduced scale, but elytral markings differently placed, and third and fifth interstices not terminated before apex. The colour varies from a pale dingy flavous with paler markings on slightly infuscated elytra, to almost black with sharply defined markings on elytra. The darker form, one of which is the type, is piceous brown; muzzle, sides of prothorax, spots on elytra, antennæ (except club), legs, and parts of under surface more or less flavous; there are often eighteen spots on the elytra so placed as to form an irregular circle about the basal half of the suture, a postmedian fascia (the fascia may be composed of connected or disconnected spots), and a semicircle on each side of base; the most conspicuous spots are on each side of the scutellum, and these form parts of the circle and semicircles; on one almost black specimen, the only spots on the elytra are those adjacent to the scutellum. The pale form has parts of the head, prothorax, and under surface slightly infuscated (sometimes scarcely darker than the adjacent parts); the elytral spots may be disposed as on the dark form, although less sharply defined, or so extended that the basal semicircles are entire instead of

formed of spots, and the postmedian fascia also entire; on one specimen it is widely advanced along the suture so as almost to touch the semicircles; on some of the pale specimens there are also traces of pale subapical spots. On about half of the specimens there are two shallow impressions on the disc of the pronotum, but on others these are not, or scarcely, traceable. The specimens from Mount Tambourine and New South Wales were all sifted from rotting leaves; the specimen from Mr. Dodd was taken from a sticky seed of *Pisonia brunoniana*.

This species is certainly congeneric with *A. marmoratum*, but it is doubtful if the genus *Æthinodes* can be maintained as distinct from *Lasiodactylus*.

Family TROGOSITIDÆ.

PHYCOSECIS HILLI sp. nov.

Black; under surface, legs, and antennæ of a dingy brown. Upper surface with silvery-white adpressed scales, almost evenly plating the prothorax, somewhat thinner and sublineately arranged on elytra; under surface and legs with sparse pubescence or short setæ.

Head wide. *Prothorax* transverse, hind angles widely rounded off, median lobe wide, semicircular, and concealing head from above. *Elytra* subovate, base slightly wider than widest part of prothorax; with large shallow punctures, each containing and almost concealed by a scale. *Legs* thin, but not very long. Length, 2 mm.

Hab.—Queensland: Townsville (G. F. Hill, No. 1054, and A. M. Lea); Cairns (E. Allen).—Type, *I. 11589* in South Australian Museum; cotype, *C/2277* in Queensland Museum.

In size and general appearance close to *P. ammophilus*, but prothoracic scales not quite as dense, and elytral clothing true scales instead of more or less stout setæ. The derm of the elytra is usually black, but on several specimens is a dingy brown. Ten specimens were obtained at the roots of beach-growing plants.

Family SCARABÆIDÆ.

PHYLLOTOCIDIUM BIMACULIFLAVUM Lea.

A specimen from Dorrigo (in the Queensland Museum) differs from the type in being flavous with a greenish gloss, the gloss very conspicuous on the head, and on some dark markings on the prothorax and elytra; these consist of four spots on the prothorax—a fairly large one on each side of the middle, and a small one on each side; on each elytron there is a small humeral spot and a transverse mark about the middle; only comparatively small parts of the legs are infuscated. A specimen from Comboyne is even paler, on the prothorax only the lateral spots are present, and on the elytra only the transverse ones.

Family MALACODERMIDÆ.

METRIORRHYNCHUS.

The rostrum long, short, or absent, antennæ serrate, pectinate, or ramose, prothorax three-, four-, five-, or seven-areolate, subsutural costa simple, bifurcate or trifurcate, and elytral punctures in single or double series or irregular, are characters amongst which there are so many intervening ones that probably the names *Achras, Cladophorus, Metriorrhynchus, Stadenus, Synchonnus, Trichalus, Porrostoma,* and *Xylobanus* should be regarded as synonymous, or at the most as representing sections of a genus; but as C. O. Waterhouse and others have regarded some or all of them as valid I do not purpose proposing new specific names for some that have been used more than once; these names (of which at least one of each was for an Australian species) are as follows:—

ampliatus (*Trichalus*) Waterhouse, 1877.
ampliatus (*Xylobanus*) Macleay, 1887.
angustulus (*Metriorrhynchus*) Waterhouse, 1879.
angustulus (*Trichalus*) Macleay, 1887.
apicale (*Porrostoma*) Waterhouse, 1877.
apicalis (*Cladophorus*) Macleay, 1886.
apicalis (*Trichalus*) Macleay, 1886.
ater (*Metriorrhynchus*) Waterhouse, 1879.
ater (*Xylobanus*) Macleay, 1887.
lineatus (*Metriorrhynchus*) Hope, 1831.
lineatum (*Porrostoma*) Waterhouse, 1877.
longicornis (*Cladophorus*) Macleay, 1886.
longicornis (*Xylobanus*) Macleay, 1887.
serraticornis (*Lycus*) Fabricius. Syst. Ent. p. 203; transferred by Waterhouse to *Trichalus,* 1877.
serraticornis (*Metriorrhynchus*) Macleay, 1887.

METRIORRHYNCHUS CLIENTULUS Waterh.

Seven specimens from Mount Tambourine, one from Brisbane, and one from the Tweed River agree with the original description and figures of this species, of which only a female was known to Waterhouse, but in his second description the elytra were described as having the apical fifth black, and were so figured. Of the specimens before me three have at least two-fifths black, and one of the others from one-fourth to one-third; as they are certainly conspecific and the markings somewhat variable, it is probable that the type had less of the apex dark than the average. The male differs from the female in having longer antennæ, with the serrations more pronounced, the legs somewhat longer, and in the abdomen.

METRIORRHYNCHUS CŒNOSUS Lea.

Two specimens, from the Queensland National Park, evidently belong to this species, but differ from the types in having the lateral third and rather more than the apical third of each elytron flavous, instead of the margins and tips only.

METRIORRHYNCHUS BASALIS sp. nov.

♂ Black, basal portion of elytra brick-red.

Head with muzzle very short. Antennæ moderately long, third to tenth joints moderately wide and somewhat serrated. *Prothorax* small, conspicuously seven-areolate, sides strongly narrowed to middle; front angles rounded off, hind ones produced and acute. *Elytra* thin, slightly dilated posteriorly; with single rows of large quadrangular punctures, doubled on basal fourth or fifth. Length (♂♀), 5·5-7·5 mm.

♀ Differs in having the antennæ somewhat shorter, wider, and less serrated, and abdomen wider, with the subapical segment not notched.

Hab.—Queensland: Mount Tambourine (H. J. Carter and H. Hacker); Cairns (E. Allen); Atherton and Cedar Creek (Dr. E. Mjoberg).—Type, *I. 12267* in South Australian Museum; cotype, *C/2278* in Queensland Museum.

The pale portion of the elytra varies (independently of sex) from rather less than one-third to slightly more than half, on seven specimens being about one-third, and on another seven about half. In my table[1] would be placed with *M. meyricki* (from West Australia), which has the black of the elytra continued along the suture to the base, instead of abruptly terminated some distance before it. In general appearance it is like *M. ramosus* (which has the antennæ flabellate in the male), *M. simplicicornis, M. dichrous,* and *M. clicntulus* (which have less than seven prothoracic areolets), and *M. batesi, M. togatus,* and *M. brisbanensis* (which have the elytral punctures in double series).

METRIORRHYNCHUS MINOR sp. nov.

♂ Black, elytra brick-red.

Head with muzzle produced to form a short rostrum. Antennæ short and very feebly serrated, third joint almost twice as long as wide, the others shorter, but none transverse. *Prothorax* slightly longer than apical width, conspicuously seven-areolate, apex slightly produced in middle, sides rather strongly elevated near base. *Elytra* rather narrow; with single rows of quadrangular punctures, except on basal fourth, where they are doubled, and with rather strongly elevated alternate interstices. Hind *femora* stouter than usual; hind *tibiæ* wide, the apex notched. Length (♂♀), 4-6·5 mm.

♀ Differs in having the antennæ somewhat shorter and wider, hind legs similar to the middle ones, and abdomen not notched.

Hab.—Queensland: Brisbane in December (H. Hacker). New South Wales: Inverell (H. J. Carter from J. Stevens).—Type, *I. 11812* in South Australian Museum; cotype, *C/2279* in Queensland Museum.

The part of the head in advance of the eyes is slightly wider than long; the median areolet of the prothorax is produced so that the carina connecting

[1] Lea, Trans. Ent. Soc. Lond., 1909, p. 51.

it with the apex is about two-thirds the length of the other carinæ connected with it; the hind tibiæ of the male are decidedly wider than the others; from some directions they appear to be widest in middle and narrowed to apex, but from others the apex itself is seen to be dilated and notched; the antennæ differ but little sexually. In general appearance like *M. rhipidius* in miniature; the colours are much as in *M. uniseriatus*, with which it would be associated in my table, but distinguished from that species by the very different antennæ, longer (although short) rostrum, irregular punctures at base of elytra, and irregularly elevated costæ, &c. There are nineteen specimens from Brisbane before me and eleven from Inverell.

METRIORRHYNCHUS TRICAVICOLLIS sp. nov.

♀ Flavous-red; part of head, antennæ, palpi, apical two-fifths of elytra, and abdomen black; tarsi and tips of tibiæ infuscated.

Head with very short muzzle. Antennæ rather short, slightly serrated, thicker and more densely pubescent than usual, second joint minute, third much longer than first and distinctly longer than fourth, the others gradually decreasing in width, tenth slightly longer than ninth, and distinctly shorter than eleventh. *Prothorax* strongly transverse, all margins thickened and strongly elevated (the base less strongly than the others), triareolate, the median areolet connected with base and apex, and unusually wide (about one-third the width of prothorax near its apex); front angles rounded off, hind ones produced and acute. *Elytra* moderately wide; with single rows of large transversely oblong punctures, near base feebly doubled. Length, 5 mm.

Hab.—Queensland: Cairns (A. P. Dodd); Blackall Range in April (C. J. Wild).—Type, *C/2280* in Queensland Museum.

A curious velvety species, very different from any other species before me; in my table it would be associated with *M. basiflavus*, but the prothorax is more transverse, with the median areolet very different, legs paler, &c. Each elytron almost throughout has but five series of punctures, as the doubling of the rows near the base is but faint, the punctures about the apex are irregular, and near the apex the outer row is feebly doubled.

METRIORRHYNCHUS FLAVOLIMBATUS sp. nov.

♂ Black; sides of prothorax rather widely, and much of elytra pale.

Head with muzzle very short. Antennæ rather long, third to tenth joints moderately serrated, third longer than fourth, eleventh slightly longer than tenth. *Prothorax* moderately transverse, seven-areolate, front obtusely produced in middle, sides strongly elevated and narrowed to middle; front angles rounded off, hind ones produced and sharply acute. *Elytra* slightly dilated posteriorly; with double rows of irregular punctures, alternate interstices distinctly elevated. Length (♂♀), 6-11 mm.

♀ Differs in having somewhat shorter and less strongly serrated antennæ, and abdomen not notched.

Hab.—Queensland: Mount Tambourine (H. Hacker, Dr. A. R. Pulleine, and Dr. E. Mjoberg); Killarney (Hacker). New South Wales (J. A. Kershaw); Illawarra (H. W. Cox); Woolgoolga (H. J. Carter).—Type, *I. 12268* in South Australian Museum; cotype, *C/2281* in Queensland Museum.

In general appearance close to *M. limbatus,* but the median areolet of the prothorax shorter, and the costæ connected with it differently placed; from each side of the areolet at its widest part a costa extends only halfway to the front margin (instead of towards each side as in *limbatus*); a feeble ridge (hardly a costa) extends across part of the middle from the areolet, so that although seven areolets are indicated only the median one is completely isolated. The extent of black on the elytra varies considerably, but the sides, tips, and part of the suture are pale on all the specimens (eleven) before me; on only one of them the suture is pale to the base; the second stout costa on most of them is pale throughout, for most of its extent it traverses black surface, but near the base and apex the parts traversed are flavous.

METRIORRHYNCHUS QUINQUECAVUS sp. nov.

♂ Black, elytra and sides of prothorax brick-red.

Head with muzzle very short. Antennæ rather long, moderately serrated, third joint slightly longer than fourth, and eleventh slightly longer than tenth. *Prothorax* moderately transverse, five-areolate, median areolet continuous from base to apex, at its widest part a carina connecting it with each side, latero-basal areolets about one-third larger than the latero-apical ones; front angles rounded off, hind ones produced and sharply acute. *Elytra* very little wider near apex than at base; punctures irregular. Length, 7 mm.

Hab.—Queensland: National Park (H. Hacker).—Type, *C/2282* in Queensland Museum.

On each elytron of the type there is a small black stain near the suture, about one-third from apex. The elytral punctures in places are almost in single series, but many of them are like Y's transversely placed; at the basal fourth they are distinctly in double rows, but elsewhere the rows are usually feebly doubled, so that they could not fairly be regarded as being in single series. In general appearance the species resembles *M. lateralis* and *M. irregularis,* but distinguished by the five-areolate prothorax; in *M. flavolimbatus* the central areolet has short spurs, denoting the partial presence of seven areolets, but on this species these are entirely absent.

METRIORRHYNCHUS FRATER sp. nov.

♂ Black, basal three-fourths of elytra brick-red.

Head with long and rather thin rostrum. Antennæ rather long, moderately wide and strongly serrated. *Prothorax* moderately transverse,

sharply seven-areolate, apex produced in middle and truncated, sides strongly elevated, angularly narrowed to middle; front angles rounded off, hind ones produced and acute. *Elytra* almost parallel-sided; with regular double rows of punctures, the alternate interstices elevated. Hind *tibiæ* somewhat thickened in middle, lower edge bisinuate, apex thickened and notched. Length (♂ ♀), 10-12 mm.

♀ Differs in having shorter and less strongly serrated antennæ, hind tibiæ not so wide, the apex not thickened, and abdomen not notched.

Hab.—Queensland: Mount Tambourine in November and National Park in December (H. Hacker).—Type, *C/2283* in Queensland Museum; cotype, *I. 12269* in South Australian Museum.

There are many other species of the allied genera having the prothorax and apex of elytra black, but this is the only known one in which the rostrum is long, its length being about two-thirds that of the prothorax; in my table it would be placed with *M. disconiger,* but the black of the elytra is confined to the apex. The hind tibiæ of the male are dilated to the apex as viewed from behind, but they seem to be narrowed there from some directions.

METRIORRHYNCHUS CRYPTOLEUCUS sp. nov.

♂ Black, elytra and sides of prothorax brick-red.

Head with rostrum rather long and moderately wide. Antennæ rather long, strongly serrated, third joint stouter and slightly longer than fourth, eleventh conspicuously longer than tenth. *Prothorax* moderately transverse, distinctly seven-areolate, front somewhat rounded in middle, front angles widely rounded off, sides feebly increasing in width and height to base, but hind angles projecting outwards. *Elytra* almost parallel-sided; with regular double rows of transversely oblong punctures, the odd interstices regularly elevated. Subapical segment of *abdomen* with a wide median notch almost to base. Hind *tibiæ* somewhat thickened. Length (♂ ♀), 14-20 mm.

♀ Differs in having antennæ shorter and less strongly serrated, subapical segment of abdomen not notched, the apical one with a slight median notch at apex, on each side of which is a small elevation, and hind tibiæ thinner.

Hab.—Queensland (National Museum): Mount Tambourine (Dr. E. Mjoberg and A. M. Lea); National Park and Mapleton in November (H. Hacker). New South Wales: Acacia Creek (H. J. Carter).—Type, *I. 12270* in South Australian Museum; cotype, *C/2284* in Queensland Museum.

A rather large species, in some respects close to *M. variipennis,* and elytra sometimes partly dark (on twelve specimens entirely pale), but rostrum somewhat shorter, and sides of prothorax not angularly dilated near base; from above the margins of the prothorax appear to be gently and evenly (except for a feeble sinuation) dilated to the base, from the sides they appear to be gently and evenly convex; but on that species the margins, from all points of view, are seen to be suddenly and angularly dilated near the base. On most of the specimens the

sixth and seventh segments of the abdomen, or sometimes only the sixth, have a small waxy-white strip on each side. The rostrum is more than half the length of the prothorax and its upper surface is about twice as long as wide, but the lower surface is dilated at the base. In my table would be placed with *M. lateralis*, from which they differ in being larger and in having the rostrum and antennæ decidedly shorter.

Var.—Four specimens from New South Wales (Dorrigo, W. Heron; and Illawarra, H. W. Cox) have the elytra black, with the sides, apex, and suture pale; the pale parts are somewhat dilated on the shoulders, and continued for a short distance along some of the costæ; about one-fourth or one-fifth of the tips are pale. The size ranges 10-17 mm. and the under parts are as on the typical form. In my table the variety would be associated with *M. variipennis*, from which it differs structurally as the types.

METRIORRHYNCHUS DENTIPES sp. nov.

♂ Black and flavous, inclining to brick-red.

Head with rostrum of moderate length (about as long as its basal width). Antennæ rather long, most of the joints strongly serrated, second minute, third to fifth with some long straggling hairs on under surface, third about twice as long as wide, its tip slightly produced on one side of apex, fourth distinctly shorter than third, and scarcely longer than fifth, their tips more distinctly produced than on third, sixth to tenth with serrations commencing at base. *Prothorax* along middle about as long as greatest width, conspicuously seven-areolate; apex subtriangularly produced in middle, sides subparallel to middle, then dilated to base, hind angles subacute. *Elytra* with regular double rows of punctures, the alternate interstices elevated. *Tibiæ* wide, the hind ones each with a large obtuse tooth about one-third from apex, and a large truncated process on the inner side. Length (♂♀), 8-10 mm.

♀ Differs in having antennæ with shorter and less strongly serrated joints, the subbasal ones without special clothing, abdomen not notched, and hind tibiæ unarmed.

Hab.—Queensland: Coen River (W. D. Dodd).—Type, *I. 11822* in South Australian Museum; cotype, *C/2285* in Queensland Museum.

The pale parts are the prothorax, scutellum, elytra (except from about one-fourth to about one-seventh of the tips), parts of front and of middle legs (on some specimens the only parts of these that are dark are the tarsi, on others the tibiæ and part of the femora are dark, on some more of the middle than of the front legs are dark), and parts of under surface of from three to five basal joints of antennæ; on three males and two females most of the head is pale, on seven other males it is entirely dark. The rostrum is the exact length of that of *M. rufirostris*, noted in my table as of "moderate" length, but the female differs from the female of that species (the only sex at present known) in having the elytra tipped with black, and more of the legs pale; regarding the rostrum

as long, the species would be associated with *M. abdominalis,* whose male has very different hind tibiæ; regarding it as short, with *M. fallax,* whose rostrum is distinctly shorter, legs darker and less of elytra black; at first glance it resembles *M. apicalis, M. abdominalis,* and *M. melaspis*; it is, however, distinct from all species of the genus, except *M. tibialis,* by the peculiar hind tibiæ; from *tibialis* itself it is distinct by the larger size, longer rostrum (about twice its length), longer antennæ (of different colour, clothing, and proportions), prothorax and scutellum entirely pale, and more of legs and of elytra pale; the dark part of the elytra is narrowest at the suture, instead of widest there; the projection itself is also somewhat different from that of *tibialis*—it can be partially received into an excavation near the base of the hind femora. The outer walls of the latero-posterior areolets are considerably higher than the others.

METRIORRHYNCHUS FLAVIPENNIS sp. nov.

♂ Black, elytra flavous.

Head without distinct rostrum. Antennæ rather long, third to tenth joints feebly serrated (eleventh missing); third slightly longer than fourth, the following ones gradually decreasing in width, but not in length. *Prothorax* moderately transverse; conspicuously seven-areolate; apex slightly produced in middle, sides dilated from middle to base, front angles obtuse, hind ones produced and acute. *Scutellum* with tips produced. *Elytra* thin, almost parallel-sided; each with ten regular rows of punctures, becoming irregular at base and tips. Length, 7 mm.

Hab.—Queensland: National Park in November (H. Hacker).—Type (unique), *C/2286* in Queensland Museum.

A narrow species, at first glance apparently belonging to one of the forms of *M. rufipennis,* with which it would be associated in my table, but the antennæ very feebly serrated (much less strongly than even on the female of that species), and punctures, owing to the non-elevation of the alternate interstices, in ten regular rows on each elytron, instead of in five double rows.

METRIORRHYNCHUS MEDIONIGER sp. nov.

♂ Black, sides of prothorax and most of elytra brick-red.

Head with rostrum very short. Antennæ moderately long, rather wide and rather strongly serrated, but without a tendency to pectination. *Prothorax* about as long as wide; conspicuously seven-areolate; apex obtusely produced in middle, sides feebly dilated to base, front angles widely rounded off, hind ones almost rectangular. *Elytra* feebly dilated posteriorly; with regular double rows of punctures, the alternate interstices elevated. Length (♂♀), 8-10 mm.

♀ Differs in having antennæ somewhat shorter and slightly less serrated, abdomen wider, subapical segment not notched, and legs somewhat shorter.

Hab.—Queensland: National Park in October (H. Hacker).—Type, *C/2287* in Queensland Museum; cotype, *I. 12266* in South Australian Museum.

The prothorax is about as long as wide in the male, but slightly transverse in the female; in my table, therefore, it could not be associated with any of the species of EEE, but it is a rather shorter and more compact one than any of those there noted, and the dark part of the elytra is confined to the scutellar region; on each elytron it extends across three rows of punctures at the base, and across two where it terminates at the basal third; in general appearance it is like some small forms of *M. variipennis*, and of *Trichalus ampliatus*. Parts of the head, and on one male parts of three basal joints of antennæ, are obscurely diluted with red.

METRIORRHYNCHUS APICIVARIUS sp. nov.

♂ Prothorax, scutellum, and elytra (except extreme tips) brick-red, elsewhere black.

Head with very short rostrum. Antennæ with third to tenth joints ramose, and clothed with distinct hairs. *Prothorax* moderately transverse; conspicuously seven-areolate; front obtusely produced in middle, front angles widely obtuse, hind ones almost rectangular, base very little wider than apex. *Elytra* thin; with regular double rows of punctures, alternate interstices slightly elevated. Length (♂ ♀), 8-10 mm.

♀ Differs in having shorter and strongly serrated antennæ, and subapical segment of abdomen not notched.

Hab.—Northern Queensland (H. J. Carter from H. Hacker); Cairns (E. Allen, A. P. Dodd, and Hacker); Gordonvale in July (E. Jarvis).—Type, *I. 12275* in South Australian Museum; cotype, *C/2288* in Queensland Museum.

The ramus of the third joint is more than twice as long as its support, on some of the others it is almost four times as long as its support; the eleventh joint is more than twice as long as the non-ramose portion of the tenth. Three males and one female have the elytra as described, but on two males the elytra are entirely red; these two also have the central areolet deeply infuscated (almost black); one of the males with black tips has the mesosternum, trochanters, and front and middle coxæ flavous. From *M. trichocerus* (which has very similar antennæ) it differs in being more brick-red than flavous, and the elytra entirely pale or with only the extreme tips dark. The difference in the tips of the elytra would distribute the specimens in my table as follows:—Those with the tips black with *M. gracilis*, from the description of which they differ in having much longer antennal rami, all of these being much longer than their supporting joints; those with the elytra entirely pale with *M. miniatus*, from which they differ in having the central areolet much shorter, and the rami much longer.

TRICHALUS GRIFFITHI Lea.

On specimens of this species the black apical portion of the elytra varies from one-sixth to more than one-third in length.

Subfamily LAMPYRIDES.

The fireflies of Australia, on the whole, have not been carefully collected, and of many of the species only males are known; with some species the female is much like the male, except on the under surface; on the female of *Atyphella scintillans* there are no flight wings, and the elytra are greatly abbreviated, and in Queensland there is at least one species with a larva-like female.[1] The species are as follows:—

Both Sexes Known.

Atyphella lychnus Oll.
A. scintillans Oll. (*decora* Oliv.).
Luciola complicata Lea.
L. flavicollis Macl. (*coarcticollis* Oliv., *gestroi* Oliv.).
L. humilis Oliv.
L. platygaster Lea.
L. pudica Oll.

Male only Known.

A. atra Lea.
A. brevis Lea (abundant)
A. flammans Oll.
A. olivieri Lea (abundant).
L. costata Lea.
L. cowleyi Blackb. (abundant).
L. dejeani Gemm. (*apicalis* Boi.)
L. inconspicua Lea.
L. majuscula Lea.

Not Identified in Australian Collections.

L. australis Fab. (*guerini* Cast., *nigripennis* Latr.).

LUCIOLA INCONSPICUA sp. nov.

♂ Of a dingy brown; head and three basal segments of abdomen black, prothorax (one large and some smaller spots excepted), scutellum, and parts of legs of a rather dingy flavous, two apical segments of abdomen white.

Head largely concave and with numerous punctures between eyes. Antennæ with third joint slightly shorter than fourth, and slightly shorter and thinner than second. *Prothorax* about twice as wide as long, apex obtusely produced in middle, a large depression on each side, smaller ones in middle of base, median line distinct; punctures crowded and in places subasperate. *Elytra* parallel-sided to near apex, each with two distinct discal costæ, thickened much like the suture but becoming thinner posteriorly; punctures crowded and somewhat smaller than on prothorax. Length, 5-6 mm.

Hab.—Queensland: Cairns district (E. Allen).—Type, *I. 11845* in South Australian Museum; cotype, *C/2289* in Queensland Museum.

Mr. Allen obtained twenty-eight specimens, all males; at first glance they look close to *L. cowleyi,* but differ in being slightly narrower, prothoracic markings as an isolated spot no wider than the interocular space, and usually narrower, a minute spot on each side, and two or four minute ones at the base; basal segments of abdomen black, and the two apical segments white on both surfaces.

[1] Mr. E. Allen sent two specimens of it from Cairns. They are much like small females of the European *Lampyris noctiluca,* but as its male is unknown I have not named it.

The elevated parts of the elytra are usually slightly paler than the adjacent surface. The species might almost as well have been referred to *Atyphella* as to *Luciola*: in fact, the phosphorescent portion of its abdomen is exactly as in *A. lychnus*.

ATYPHELLA ATRA sp. nov.

♂ Black: margins of prothorax, and an oblique line on each side of and connected with the base, scutellum, and greater portion of legs of a dingy flavous; two apical segments of abdomen white.

Head almost entirely concealed from above; deeply concave, highly polished and with small punctures between eyes. Antennæ with third joint thinner and slightly longer than second and fourth, sixth to tenth slightly transverse. *Prothorax* about thrice as wide as long, sides strongly rounded and increasing in width to base; surface uneven and with fairly large, shallow, crowded punctures. *Elytra* rather wide, sides feebly dilated, each with three discal costæ, of which the two inner ones are long and almost as stout as the sutural thickening, the other is finer, submarginal, almost as distant from the second as the second is from the suture, commences near the shoulder (this considerably thickened and slightly paler than the adjacent surface), and terminates before the others; punctures dense, sharply defined and somewhat smaller than on prothorax. *Abdomen* with first white segment slightly more than half the length of the preceding one, the following segment considerably longer, with its tip produced in middle. *Legs* thin, but rather short. Length, 6·5-7 mm.

Hab.—Queensland: National Park in November (H. Hacker).—Type, *C.2290* in Queensland Museum; cotype, *I. 12282* in South Australian Museum.

The interocular space and the abdomen (except the two apical segments) are of an intense black, the other black parts have a more or less brownish tinge; the pale margins of the prothorax are very distinct, at the base from each side the elevated part curves round and is directed obliquely inwards for a short distance, but the base between has also a pale marginal strip. Structurally it is close to *A. brevis* and *A. olivieri*: Mr. Hacker obtained twelve specimens, all males.

ATYPHELLA SCINTILLANS Oll.

Mr. H. J. Carter sent for examination a pair of this species, taken *in cop.* on Bunya Mountain. The female is almost entirely pale (the antennæ and elytra are slightly infuscated only), the abdomen has a mottled appearance, as if the phosphorescent material had been irregularly scattered through it (but no doubt would look different on living specimens). The prothorax is slightly larger than on the male, and has the sides and apex conjoined to form an almost perfect semicircle, but the base is somewhat sinuous, the elytra (each of which has two discal costæ) are very short, being less than their combined width; they leave six abdominal segments exposed and most of the preceding one.

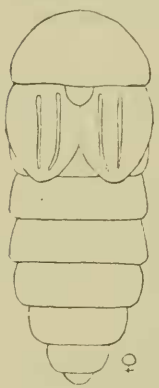

FIG. 1.—*Atyphella scintillans* Oll.

TELEPHORUS VARIIVENTRIS sp. nov.

♂ Flavous; antennæ, palpi, most of elytra, knees, tibiæ, and tarsi black. Densely clothed with short pubescence, golden on the pale parts, blackish on the dark parts.

Head rather wide; with minute punctures. Antennæ rather long, moderately stout, joints after the fourth slightly decreasing in width, and slightly increasing in length. *Prothorax* strongly transverse, disc uneven; with very minute punctures. *Elytra* rather long, almost parallel-sided; with crowded rugose punctures, smaller about base than elsewhere, and with remnants of feeble costæ. Apical segment of *abdomen* deeply notched. *Legs* moderately long. Length (♂ ♀), 7·5-10 mm.

♀ Differs in having the head smaller, with shorter antennæ, rather more of the elytra pale, metasternum and abdomen (except apical segment, which is not notched) black or infuscated, and more of femora dark.

Hab.—Queensland: South Johnstone River (H. W. Brown); Malanda (Dr. E. Mjoberg).—Type, *I. 12207* in South Australian Museum; cotype, *C/2291* in Queensland Museum; others in Stockholm Museum.

In my table[2] would be associated with *T. rubriceps* and *T. rufiventris*; the many species allied to *T. mastersi* differ from it as follows:—*T. mastersi* and *T. froggatti* have base of elytra and part of head black or blackish; *T. mossmani* and *T. macrops* have elytra entirely pale; *T. palmerstoni* has thicker and shorter antennæ, and base of elytra dark; *T. rufiventris* has much less of elytra dark; and *T. rubriceps* has basal joint of antennæ distinctive in the male. On the male the base of the elytra, for a distance about equal to the length of the prothorax, is pale, but the sides are narrowly pale almost to the middle, or even beyond it, and the suture is very narrowly pale also for a short distance.

TELEPHORUS ATRICORNIS sp. nov.

♂ Black and flavous. With rather sparse, ashen pubescence, and fairly numerous, suberect, dark hairs.

Head wide and gently convex between eyes, strongly narrowed to base; with dense minute punctures. Antennæ moderately long, fairly stout, but becoming rather thin towards apex, third joint about half the length of fourth. *Prothorax* slightly longer than wide, disc somewhat uneven, sides and suture thickened. *Elytra* long, thin, and parallel-sided to near apex, sides and suture thickened, a fairly distinct discal costa to beyond the middle; with crowded, rugose punctures. *Legs* rather long and thin. Length (♀♂), 7-13 mm.

♀ Differs in being rather more robust, head narrower across eyes and wider at base, much less of muzzle pale, and legs slightly shorter.

Hab.—Queensland: Mount Tambourine (A. M. Lea). New South Wales (H. J. Carter); Dorrigo (W. Heron); Tweed River (R. Helms).—Type, *I. 9240* in South Australian Museum; cotype, *C/2292* in Queensland Museum.

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[2] Lea, Trans. Ent. Soc. Lond., 1909, p. 113.

At first glance apparently belonging to *T. imperialis,* with which it would be associated in my table, but antennæ decidedly shorter, thicker, and hairier, the ninth and tenth joints no paler than the adjacent ones, apical joint of palpi smaller, prothorax longer, elytra with a distinct costa on each, and the black part at the base rounded posteriorly, instead of truncated. There are numerous specimens of both species before me, and the differences noted are constant. On both species the antennæ are slightly thicker on the male than on the female. On the male the flavous parts are much of the muzzle, a narrow space at apex of prothorax, and more of its base (the basal portion advanced on the sides), elytra (except for a small space at base and another at apex), parts of sterna, much of under surface of abdomen, trochanters, and parts of coxæ. On the male the extreme base of the head is about half the width across the eyes, on the female it is about two-thirds.

HETEROMASTIX PUSILLUS Boh.

Five specimens from Mount Tambourine, and one from the Queensland National Park, probably represent another variety of this species; they differ from Sydney (the type locality) ones, in being smaller (2-2·75 mm.), and in having the legs flavous, except that the femora on most of them are partly infuscated. Another, from Brisbane, in the Queensland Museum, measuring 2 mm., has much of the prothorax infuscated.

HETEROMASTIX PALLIPES Lea.

A specimen from the National Park, in the Queensland Museum, appears to belong to this species, but is slightly larger (4 mm.) than the type, the apical joint of its antennæ is slightly stouter, and the two basal joints are dark on the upper surface.

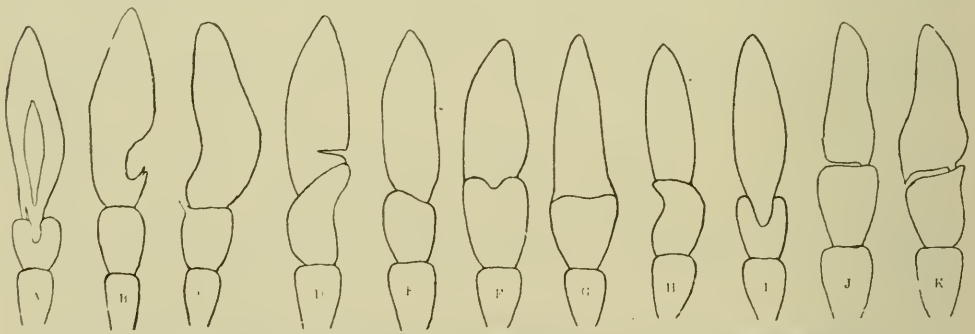


Fig. 2.—Tips of antennæ of species of *Heteromastix*. A, B, C, *spinicornis* Lea; D, E, *melanocephalus* Lea; F, G, *castor* Lea; H, I, *pollex* Lea; J, K, *scutellaris* Lea.

HETEROMASTIX SPINICORNIS sp. nov.

♂ Black, basal two-thirds of elytra flavous. Densely clothed with dark pubescence, becoming golden on pale portion of elytra.

Head with dense and minute punctures. Antennæ moderately long, first

joint scarcely longer than third and at apex no wider, second about half the length of third, third-ninth subequal in length and apical width, tenth distinctly wider and with a small spine at inner apex, eleventh longer than ninth and tenth combined, base irregularly compressed. *Prothorax* more than twice as wide as long, distinctly margined throughout. *Elytra* parallel-sided to near apex; with crowded and small rugulose punctures, and vague remnants of costæ. Length, 6·5 mm.

Hab.—Queensland: Mount Tambourine (H. J. Carter).—Type, *I. 11861* in South Australian Museum.

In my table would be associated with *H. luridicollis,* but distinguished from that, as from all other species having the apical joints of antennæ distorted, by the black prothorax and bicolorous elytra. The eleventh joint of antennæ appears to alter in shape with the point of view; from one direction it appears to have a subbasal notch and to be narrower than the tenth joint; on its under surface it has a short longitudinal groove which appears to be continued on to the tenth; the spine on the latter joint, although small, is quite distinct from above.

Var.—Another male, from Mount Tambourine (taken by Mr. Hacker and in the Queensland Museum), has the prothorax entirely pale, the black part of its elytra is slightly advanced near the suture, and decreased towards the sides; as a result it appears to have an almost circular outline. A female (taken by Mr. Carter), also with flavous prothorax, differs from the male in the usual particulars of antennæ, legs, and abdomen.

HETEROMASTIX MELANOCEPHALUS sp. nov.

♂ Black; prothorax, basal two-thirds of elytra, tibiæ, parts of femora and of tarsi, and three basal joints of antennæ flavous. With moderately dense pubescence, varying in colour with the derm.

Head gently convex between eyes (these rather small and prominent), slightly depressed in front. Antennæ moderately long, second joint very short, tenth and eleventh distorted. *Prothorax* almost twice as wide as long, margined throughout, the lateral margins somewhat thickened near apex. *Elytra* almost parallel-sided to near apex; with dense and small, rugulose punctures. Length (♂♀), 4-4·5 mm.

♀ Differs in having the head smaller with shorter and somewhat thinner antennæ, tenth joint similar to the ninth, and their combined length slightly less than the eleventh, only about one-fourth of the elytra black, legs somewhat shorter, and abdomen not notched.

Hab.—Queensland: Bribie Island in August (H. Hacker and A. M. Lea).—Type, *I. 11862* in South Australian Museum; cotype, *C/2293* in Queensland Museum.

In my table would be placed with *H. luridicollis,* from the description of which it differs in being smaller, head entirely black, legs not entirely pale, and

in the bright flavous colour of its elytra, of which less of their tips are black. The tenth joint of the antennæ of the male is slightly longer than the ninth, and more produced on one side (and curved on it) than on the other; the eleventh is about as long as the ninth and tenth combined, closely applied to the latter and with a narrow notch on one side near the base, the notch invisible from most directions. Mr. Hacker and I obtained eleven specimens, but only one male.

HETEROMASTIX CASTOR sp. nov.

♂ Black; prothorax, parts of under surface of head, two basal joints of antennæ, tibiæ, and parts of femora flavous; tarsi and part of second joint of antennæ infuscated. With short, ashen pubescence.

Head with a shallow interocular depression. Antennæ rather long and not very thin, tenth and eleventh joints closely applied together. *Prothorax* about twice as wide as long, sides slightly dilated near apex, but scarcely thickened. *Elytra* almost parallel-sided to near apex; with dense and small subrugulose punctures. Length, 3·75-4 mm.

Hab.—Queensland: Brisbane (H. Hacker); Glen Lamington (Dr. E. Mjoberg).—Type, *C/2294* in Queensland Museum.

The tenth and eleventh joints are somewhat distorted but they are so closely applied together that from some directions they appear to be simple; the tenth, however, has a slight apical notch, in which is received a basal process from the eleventh; it is wider than the ninth, slightly longer on one side, and more noticeably on the other; the eleventh is somewhat dilated at the base, and the process received into the tip of the tenth may be regarded as a remnant of a spine; its longest side is about twice the length of the tenth. So little of the muzzle is pale (scarcely more than the labrum) that the species might be regarded as belonging to *cc* of my table,[3] and there associated with *H. gagaticeps*, which has the apical joints very different; but, regarding the muzzle as pale, it would be associated with *H. imitator*, which is a smaller and more fragile species, with thinner antennæ, the eleventh joint of which is much thinner than the tenth.

HETEROMASTIX POLLUX sp. nov.

♂ Black; prothorax, two basal joints of antennæ, and knees flavous. With short pubescence.

Head with two faint interocular impressions. Antennæ rather long and not very thin, two apical joints somewhat distorted. *Prothorax* and *elytra* as described in preceding species. Length (♂♀), 3·5-4 mm.

♀ Differs in having the head smaller, antennæ shorter, thinner, and simple, and abdomen not notched.

Hab.—Queensland: Brisbane (H. Hacker). Type, *C/2295* in Queensland Museum; cotype, *I. 12260* in South Australian Museum.

[3] Lea, Trans. Ent. Soc. Lond., 1909, p. 130.

The black scutellum associates this species in my table with *H. gagaticeps*, which is a larger species, with two apical joints of antennæ somewhat different: to the preceding species it is closer, but the tenth joint of antennæ is different, and the knees are the only pale parts of the legs; the following species has the scutellum and middle tibiæ pale, and the apical joints are not quite the same. The tenth joint on one side is distinctly incurved, with its tip slightly produced beyond the base of the eleventh; on one side it is partly excavated for the reception of the base of that joint; the eleventh is slightly wider than the tenth, but from some directions appears to be of the same width.

HETEROMASTIX MINOR sp. nov.

♂ Black; prothorax, scutellum, mesosternum, legs (tarsi slightly infuscated), and two basal joints of antennæ flavous. With short, ashen pubescence.

Head with a shallow interocular impression. Antennæ not very long, two apical joints somewhat distorted. *Prothorax* and *elytra* as described in *H. castor*. Length, 3 mm.

Hab.—Queensland: Buderim Mountain (H. Hacker).—Type (unique), *C/2296* in Queensland Museum.

The eleventh joint of the antennæ is slightly longer than in *H. decipiens*, and is not quite simple; the tenth is much shorter, but at first glance the type appears to be a small specimen of that species. It is slightly smaller and with antennæ somewhat similar to those of *H. castor* and *H. pollux*, but the scutellum is pale; this character would associate the species, in my table, with *H. pallipes*, which has much longer antennæ, with the terminal joints different. The tenth joint is somewhat similar to the ninth, but is slightly wider at apex, and a little lopsided; the eleventh also is lopsided and somewhat dilated at base, but the two joints are so closely applied together that it is difficult to see their junctional parts.

HETEROMASTIX SCUTELLARIS sp. nov.

♂ Black; prothorax, scutellum, mentum, mesosternum, legs (tarsi infuscated), and under surface of three basal joints of antennæ flavous. With very short pubescence.

Head with two faint longitudinal impressions in front, terminating posteriorly in two faint interocular ones. Antennæ long, two apical joints distorted. *Prothorax* and *elytra* as described in *H. castor*. Length (♂♀), 3·75-4·5 mm.

♀ Differs in having the head smaller, with shorter and simple antennæ, and abdomen not notched.

Hab.—Queensland: Mount Tambourine (A. M. Lea).—Type, *I. 11867* in South Australian Museum; cotype, *C/2297* in Queensland Museum.

The tenth joint of the antennæ of the male is about the length of the ninth, but longer on one side than on the other; the eleventh is constricted

somewhat nearer the base than apex, and one side of the base is produced into a short spine on to the shorter side of the tenth; the two joints, however, are so closely applied together that it is difficult to see their junctional parts. In my table would be associated with *H. pallipes,* but from the position in which the basal spine of the eleventh joint is visible, on that species, the apical portion of the joint seems set at a tangent, very different from that of the present species; *H. frater* has a pale scutellum, but its muzzle is also pale; *H. minor* is more fragile, with thinner antennæ, of which the two basal joints are entirely pale; *H. major* is a larger species, with legs mostly dark; *H. castor* has the scutellum black, legs mostly black, and two basal joints of antennæ entirely pale; all these species also differ, *inter se,* in the eleventh joint of antennæ.

HETEROMASTIX TIBIALIS sp. nov.

♂ Black and flavous. With rather dense, suberect pubescence.

Head rather large, with a shallow interocular depression. Eyes large and prominent. Antennæ long and thin, ninth joint slightly longer than tenth, and shorter than eleventh. *Prothorax* about twice as wide as long, margined throughout; with distinct, submarginal punctures. *Elytra* almost parallel-sided to near apex; with dense and sharply defined punctures of moderate size, becoming very small on tips. Front *tibiæ* dilated to apex and notched there, basal joint of front tarsi strongly incurved on one side. Length (♂♀), 5-5·5 mm.

♀ Differs in having the head smaller, with smaller and less prominent eyes, antennæ shorter, subapical segment of abdomen not notched in middle, front tarsi only slightly thickened at apex and not notched, and basal joint of front tarsi symmetrical.

Hab.—New South Wales: Dorrigo (W. Heron); Tweed River (A. M. Lea).—Type, *I. 11870* in South Australian Museum; cotype, *C/2298* in Queensland Museum.

The black parts are the head (except part of its under surface), antennæ, palpi, metasternum, and abdomen; the apical sixth of elytra, apical half of tibiæ, and the tarsi, are more or less deeply infuscated or blackish. In the male the antennæ almost extend to the tips of the elytra; the notch, at the tip of its front tibiæ, has proceeding backwards from it a narrow groove on each side to about the apical third (as if the tibia had been split), the tibia itself is somewhat produced on one side of apex. The general appearance is somewhat as in some forms of *H. luridicollis,* but the antennæ of both sexes are simple.

A male from Queensland (Gympie) appears to belong to this species, but has the flavous parts brighter, almost the whole of the apical half of elytra black, tibiæ infuscated only at tips, the front ones somewhat thicker at apex, not longitudinally impressed near apex, but quite as strongly notched there, and the basal joint of front tarsi longer and more strongly curved.

HETEROMASTIX PUNCTICORNIS sp. nov.

♂ Deep black; head, prothorax, two basal joints of antennæ, and front coxæ bright reddish flavous; front knees feebly diluted with red. With rather dense and short pubescence.

Head with a faint impression near each eye. Antennæ moderately long and rather thin, third to tenth joints each with a puncture on a small polished space near apex on the upper surface. *Prothorax* about twice as wide as long, margins fairly wide at base and sides, but feeble across apex, sides slightly wider near apex than at base, but not thickened; with distinct, submarginal punctures. *Elytra* almost parallel-sided to near apex; with dense and sharply defined punctures of moderate size. Length (♂♀), 4-4·5 mm.

♀ Differs in having the head smaller, with less prominent eyes, antennæ shorter, without polished punctate spaces, legs shorter, and in the abdomen.

Hab.—Queensland: Bribie Island in August (H. Hacker).—Type, *C/2299* in Queensland Museum; cotype, *I. 12255* in South Australian Museum.

In my table it would be associated with *H. geniculatus,* from which it differs in being smaller, middle and hind knees and scutellum black, antennæ much shorter, &c.; from *H. compar* it differs in being more robust, with darker legs and scutellum, antennæ slightly stouter, and many of the joints with a polished punctate space. Structurally it is closest to *H. nigripes,* and in appearance it is much like the female of *H. bryanti.* The shining spots on the antennæ from some directions look like granules.

HETEROMASTIX TRICOLOR sp. nov.

♂ Head, prothorax, scutellum, two basal joints of antennæ, parts of palpi and front legs (tarsi and tips of tibiæ infuscated) flavous; rest of legs, mesosternum, metasternum, and abdomen black; elytra deep purple. With rather dense pubescence.

Head gently convex, with two feeble impressions in front. Antennæ moderately long and fairly stout, third joint slightly shorter than fourth, eleventh thinner and conspicuously longer than tenth. *Prothorax* about twice as wide as long, sides and base with fairly wide margins, front margin very short. *Elytra* parallel-sided to near apex; with crowded and sharply defined but rather small punctures, becoming smaller at base and apex. Length (♂♀), 4·5-6 mm.

♀ Differs in having the head smaller, with less prominent eyes, antennæ shorter and thinner, and abdomen not notched.

Hab.—Queensland: Mackay (Blackburn's and French's collections from R. E. Turner); Mapleton in October, and Brisbane in April (H. Hacker). New South Wales: Galston (D. Dumbrell); Sydney (A. M. Lea).—Type, *I. 12258* in South Australian Museum; cotypes, *C/2300* in Queensland Museum, and in National Museum.

A rather wide species; on several specimens the middle and hind knees,

the middle tibiæ, and part of the third joint of antennæ are pale; on one female the scutellum is rather dark. In my table would be placed with *H. anticus* and *H. geniculatus*, from each of which it is distinguished by its greater width and purple elytra; in the latter species the antennæ are also decidedly longer and thinner; the former species is also considerably smaller, with elytra wider posteriorly, and antennæ of male entirely pale.

HETEROMASTIX TARSALIS sp. nov.

♂ Black; prothorax, scutellum, parts of under surface of head, mesosternum, and legs flavous; tarsi and sometimes tips of tibiæ infuscated. With moderately dense pubescence.

Head with slight interocular impressions. Eyes rather large and prominent. Antennæ long and rather thin. *Prothorax* not twice as wide as long, margined throughout; with submarginal punctures. *Elytra* moderately wide, almost parallel-sided to near apex, with dense and sharply defined but rather small punctures. Front *tibiæ* moderately dilated to, and notched on one side of apex; basal joint of front tarsi strongly curved on one side. Length, 4-5·25 mm.

Hab.—Queensland: Mount Tambourine in December and January (H. Hacker and A. M. Lea); National Park (Hacker).—Type, *I. 11875* in South Australian Museum; cotype, *C/2302* in Queensland Museum.

The front legs approach those of *H. tibialis*, but the notch at the apex of the tibiæ is less pronounced, and the incurvature of the basal joint of tarsi is less; the elytra are also entirely black. In my table would be placed at F, from all the species of which it is distinguished by its front legs and pale scutellum; in addition *H. victoriensis* is a narrower species, with much darker legs; *H. pauxillus* has longer and thinner antennæ and black legs; and *H. simplex* has shorter antennæ and darker legs. There are seven males before me, but I have been unable to identify the female amongst the many unidentified ones under examination.

Var.—A male from the Blue Mountains (in Dr. E. W. Ferguson's collection) structurally agrees with the type, but has the femora and tibiæ (except the knees) infuscated.

HETEROMASTIX PUSILLIOR sp. nov.

♂ Black; prothorax, two basal joints of antennæ, parts of under surface of head, and knees flavous. With short pubescence.

Head with two feeble interocular impressions. Antennæ long and rather thin, third to eleventh joints subequal. *Prothorax* about twice as wide as long, margined throughout, lateral margins slightly increasing in width to near apex, where they are slightly thickened; with submarginal punctures. *Elytra* long, thin, and parallel-sided to near apex; with dense and rather small but sharply defined punctures, becoming smaller at base and apex. Length, 2 mm.

Hab.—Queensland: National Park in December (H. Hacker).—Type (unique), *C/2301* in Queensland Museum.

The sides of the prothorax are dilated and thickened anteriorly, but not abruptly as in *H. pusillus* and allied species, so that in my table it would be associated with *H. victoriensis*, *H. pauxillus*, and *H. simplex*, from each of which it is distinguished by its minute size. The tenth joint of the antennæ is slightly thicker than the ninth, but the difference is very slight, and not noticeable from several directions.

LAIUS FLAVONOTATUS Lea.

Specimens of this curious little species were taken by Mr. Hacker on mangroves, at Sandgate, in September.

BALANOPHORUS SCAPULATUS Fairm.

Several specimens, sexes, of this species from the Queensland National Park, and some females from the Richmond River and Dorrigo (New South Wales), have most of the head of a deep shining black, the tarsi and apical parts of middle and hind tibiæ more or less infuscated.

CARPHURUS LONGUS Lea.

C. atricapillis Lea, var.

Numerous specimens, all females, from the Cairns district, convince me that *C. atricapillis* should be regarded as one of many varieties of *C. longus*, and as the latter name was the first used it must be recognised as the typical one, although by no means the commonest. Starting with it the various forms before me, represented by four or more specimens, may be thus noted (the clothing and apical half of antennæ, which are dark on all the forms, not here taken into consideration):—

Form 1, ♀.—Typical *longus*. Entirely pale.

Form 2, ♀.—Like 1, except that half or more of the hind femora are deeply infuscated, or black.

Form 3, ♀.—Var. *atricapillis*. Like 1, except that part of the elytra is black or infuscated; the dark part sometimes continued along the suture for a short distance towards the base, and sometimes encroached upon by the suture; it occupies from one-fourth to three-fourths of the elytra, usually about one-third; occasionally the tip of the abdomen is dark.

Form 4, ♀.—Like 3, but with a conspicuous black or infuscate, slightly curved fascia, connecting the eyes; tip of abdomen always black.

Form 5, ♀.—Head with a fascia as in 3, elytra black, with a wide but somewhat irregular median flavous fascia, metasternum, tip of abdomen and parts of hind legs black, middle legs sometimes partly dark, and some of the other segments of abdomen infuscated in parts.

There is a single specimen with the elytra almost entirely dark, the hind femora and coxæ and part of the metasternum dark, and the interocular fascia distinct; another has the head entirely pale, the elytra entirely dark, and parts of the middle and hind legs and of the metasternum dark.

So many females of this species have been before me that I think it almost certain that I have seen males, but not associated them with the species. If the male is really before me it may be *C. elegans,* of which only the male is known, and which has remarkable front tarsi.

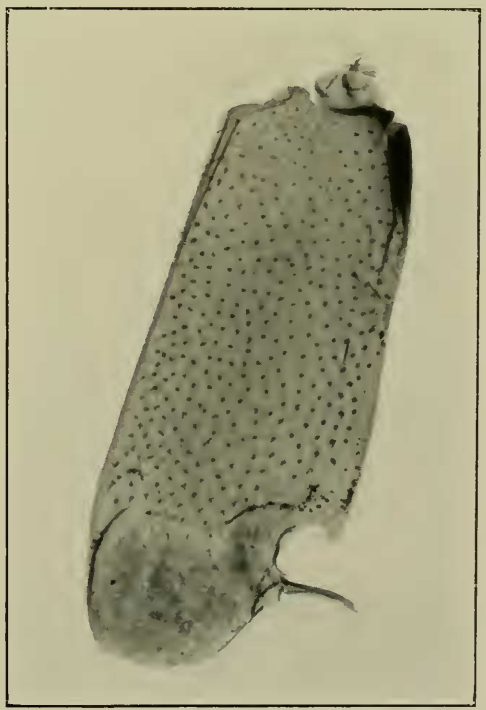
CARPHURUS PISONIÆ sp. nov.

♂ Flavous; two spots near base of head (sometimes conjoined) and metasternum black, five to seven apical joints of antennæ infuscated. With sparse white pubescence and straggling black hairs.

Head rather wide and irregularly impressed between eyes, with two oblique median elevations; with irregular punctures, becoming crowded near eyes. Antennæ moderately long and scarcely serrated. *Prothorax* slightly longer than greatest width (near apex), a shallow open depression near base; with a few scattered punctures. *Elytra* almost twice the length of prothorax, and much wider at base, each side near apex with a deep semicircular notch, the anterior end marked by a subtriangular portion of the elytron, the posterior by a long acute spine directed forwards and outwards; with dense and sharply defined punctures, suddenly terminated near apex. Basal joint of front *tarsi* with a small black comb. Length, 3-4 mm.

Hab.—Northern Queensland (Blackburn's collection); Cairns district, in abundance on sticky seeds of *Pisonia brunoniana* (F. P. Dodd).—Type, *I. 11938* in South Australian Museum; cotype, *C/2341* in Queensland Museum.

Allied to *C. cristatifrons,* and with similar elytral armature, but the head bimaculate and the elytra not; the head from the side appears evenly convex, whereas on *cristatifrons* the strong ridges, abruptly terminated in front, give a very different appearance; its head also has much larger and deeper impressions than the present one. The impressions between the eyes are not very deep; there are two oblique elevations between them, and these, with a feeble longitudinal interocular elevation, appear to form a V (or feeble Y); each fork of the V touches one of the black spots. The spines on the elytra are broken on many of the specimens, and when about half of each is left the notch from some directions appears as an almost circular hole; the part beyond the spines is sometimes of the same colour as the rest of the elytra, but is usually of a lemon-yellow colour, and is impunctate. The abdomen is of a somewhat redder tone than the other pale parts. Under the microscope the tarsal comb is seen to consist of ten or eleven teeth. More than one hundred specimens were removed from the seeds, but all are males.



Carphurus pisoniæ Lea. Upper figure, anterior leg; lower figure, elytron.
Photos.—*H. Hacker.*

CARPHURUS PURPUREIPENNIS sp. nov.

♂ Flavous or reddish flavous; elytra deep purple; mesosternum, metasternum, coxæ, most of femora, and six or seven apical joints of antennæ, black or blackish. With rather long, blackish hairs, rather dense in places; elytra with short, whitish pubescence.

Head rather large, irregularly impressed between eyes, a rather wide and deep impression behind them, a hairy longitudinal ridge crossing its middle, an acute oblique ridge on each side of middle between eyes, a curved and slightly elevated line in front; base punctate and transversely strigose. Antennæ long, moderately stout, most of the joints serrated. *Prothorax* slightly longer than greatest width, a wide shallow subbasal depression; with a few scattered punctures. *Elytra* more than twice the length of prothorax; each side at basal third with a triangular pale-tipped projection; punctures dense and sharply defined, becoming sparser and smaller on tips. Basal joint of front *tarsi* with a black inner comb. Length (♂♀), 6-8 mm.

♀ Differs in having the head smaller, with feeble depressions only, without ridges, and less hairy, apex of prothorax less produced, sides of elytra unarmed, legs and antennæ shorter, and front tarsi simple.

Hab.—Northern Queensland (Blackburn's collection); Cairns (E. Allen and F. P. Dodd); Yarrabah and Mount Bellenden-Ker (Dr. E. Mjoberg).—Type, *I. 12233* in South Australian Museum; cotype, *C/2303* in Queensland Museum.

Allied to *C. armipennis*, but readily distinguished by the two acute ridges on head: these, when viewed from behind, appear as two conical tubercles. On several specimens the suture near the base is obscurely reddish; the base of the prothorax is sometimes of a different shade of colour from its other parts. On the middle of each elytron of the male, in a line with the lateral teeth, there is a space like a small scar; it appears at a glance to be accidental, but is alike on the six males under examination.

CARPHURUS MACULICOLLIS sp. nov.

♂ Black and flavous, or reddish flavous. With short whitish pubescence and long dark hairs.

Head rather large and unevenly convex, a rather long, shallow, oblique depression each side in front; with unevenly distributed punctures; base transversely strigose. Antennæ moderately long, fourth to tenth joints serrated. *Prothorax* distinctly longer than wide, widest at about apical fourth, apex not much wider than base, a wide shallow depression near base; punctures fairly numerous on sides, sparse elsewhere. *Elytra* more than twice the length of prothorax, sides rather suddenly dilated near base, apex about one-third wider than base; with dense and small, but rather sharply defined punctures, becoming minute on tips. Basal joint of front *tarsi* with an inner comb from base to apex. Length (♂♀), 5-7 mm.

♀ Differs in having the head smaller, with shallower depressions and sparser hairs, eyes much smaller and less prominent, antennæ shorter, legs shorter and front tarsi combless.

Hab.—Queensland: Blackall Range in October (F. E. Wilson); Brisbane (H. J. Carter); National Park (H. Hacker); Mount Tambourine (A. M. Lea).—Type, *I. 12234* in South Australian Museum; cotype, *C/2304* in Queensland Museum.

The eyes of the male are larger and more prominent than usual, their combined width being almost equal to the space between them; on the female their combined width is scarcely half that of the intervening space; on the head of the male the dark hairs form two or three feeble fascicles. The species is close to *C. pallidipennis*, but the male has the head wider, with larger eyes, impressions different, and small black fascicles, elytra with smaller punctures, and a dark spot on each side near the scutellum; in my table the specimens with immaculate elytra would be associated with *C. pallidipennis*, but the spotted ones not with *C. marginiventris*, as the spots are too short and the elytral punctures finer; the heads of the males are also differently sculptured. On typical males the pale parts are the head (except for a transverse black mark near the base—on some specimens owing to the projection of the prothorax it appears to be at the base itself), prothorax (except for a large black spot on each side not quite reaching the base), elytra (except for a rounded black spot on each side of the scutellum), scutellum, prosternum, mesosternum, tips and sides of abdominal segments, three to five basal joints of antennæ, trochanters, knees, and most of tibiæ and tarsi. The typical females are coloured much as the males except that the black part of the head is larger, and that the outer apical angles of the elytra are infuscated, the basal spots are sometimes more extended. On most specimens, of both sexes, there is a dark streak, almost the entire length of the upper edge of the hind tibiæ.

Var. A.—Seven females, from Mount Tambourine, differ from typical females in having the head entirely pale (on one of them there is, however, a very small medio-basal spot), elytra entirely pale, and more of the antennæ dark; they differ from females of *pallidipennis* in being larger, and with smaller elytral punctures; it would, however, be unsafe to identify specimens of either species from females only.

Var. B.—A female, from Mount Tambourine, has the head entirely pale, as also the elytra; except for a slight infuscation on each side near the apex, most of its abdomen is pale.

Var. C.—A male, in the Queensland Museum, has the prothorax and elytra entirely pale; it seems fairly close to the description of *C. xanthochrous* and *C. tachyporoides*, but its scutellum (as on all the other specimens before me) is pale instead of black.

NECCARPHURUS ANGUSTIBASIS sp. nov.

♀ Black and highly polished; muzzle, basal half of antennæ, and extreme base of prothorax flavous.

Head deeply impressed between eyes; inter-antennary space elevated and subtuberculate. Antennæ rather long and thin, none of the joints transverse. *Prothorax* longer than wide, apex more than twice the width of base, sides strongly rounded and narrowed from apex to near base, and then subparallel to base, which is feebly bilobed, a deep, transverse, open, subbasal depression. *Elytra* slightly wider than widest part of prothorax, in parts slightly undulating; almost impunctate. Basal joint of front *tarsi* lopsided, with an inner comb. Length (♂♀), 2·5-3 mm.

♀ Differs in having the head smaller, without transverse impression, inter-antennary space very feebly elevated, antennæ thinner, and front tarsi simple.

Hab.—Queensland: Cairns district (F. P. Dodd and A. M. Lea); Innisfail.—Type, *I. 9182* in South Australian Museum; cotype, *C/2305* in Queensland Museum.

On several specimens the sides of the elytra near the base are obscurely diluted with red, on one female parts of the legs are obscurely reddish; from four to six apical joints of the antennæ are more or less deeply infuscated. One of the specimens was attached to a sticky seed of *Pisonia brunoniana*. In general appearance the species is close to *N. sobrinus*, but the head of the male is differently excavated, and the inter-antennary elevations differ as follows:—

sobrinus.	*angustibasis.*
From directly in front.	
They appear to terminate on an even line posteriorly, each being separately rounded there.	The median one is posterior to the others and on a lower level.
From behind.	
The head appears to have two small tubercles..	The head appears to have a median flat-topped convexity.
From each side.	
The head appears to have a tubercle before each eye, one behind it and one at its middle, the front one being more conspicuous than the others, which disappear when viewed from a slightly lower elevation.[1]	The head does not appear to have a tubercle behind the eye and at its middle.

[1] Lea, Trans. Ent. Soc. Lond., 1909, fig. 6.

HELCOGASTER PUNCTIPENNIS Lea.

A male of this species, from Cairns, has only five joints of each antenna dark; by a printer's error[5] the female was described originally as having the head "absolutely" bifoveate in front, instead of "obsoletely"; two other females have the foveæ rather distinct, and one of these has the inner apices of the elytra obscurely testaceous.

HELCOGASTER VARIUS Lea, **var. FLAVOPICTUS** var. nov.

Four specimens, two of each sex, from Bribie Island, appear to represent another variety of this species; they are rather larger than usual, up to 5·5 mm., and have the pale portion of the elytra larger; their dark parts are a narrow triangle about the scutellum, and the tips for about one-fourth their length at the suture, and sides (but more between); the pale parts of the legs are brighter and more extended than in other described varieties. On the males the black patch at the base of the head is terminated before the sides; on the females there is a narrow irregular reddish line near each eye, and on one of them the two are transversely connected.

HELCOGASTER INSIGNICORNIS sp. nov.

♂ Black and flavous. Upper surface with sparse, dark, erect hairs.

Head wide, with a large excavation behind muzzle. Antennæ with first joint thick, with a fovea near apex; second short, third to fifth rather wide, the following ones rather thin. *Prothorax* about as long as the greatest width, sides dilated from base to apex, near base with a large depression closed behind and at the sides, but shallowly connected, towards each side, with a shallow, latero-apical depression. *Elytra* rather long, with a few inconspicuous punctures. Basal joint of front *tarsi* with a small black comb. Length (♂♀), 2·25-3 mm.

♀ Differs in having the head narrower, with eyes slightly smaller, excavation replaced by a rather shallow depression, that is notched posteriorly in middle; antennæ shorter, basal joint much smaller and non-foveate, third and fifth joints smaller; prothorax with subbasal depression not, or scarcely, connected with latero-apical ones (and these often scarcely defined); and legs shorter, with front tarsi combless.

Hab.—Queensland: Mount Tambourine (A. M. Lea).—Type, *I. 11911* in South Australian Museum; cotype, *C/2306* in Queensland Museum.

Allied to *H. foveicornis*, but basal joint of antennæ of male smaller and of different shape, elytra with a pale basal zone and, at most, only three apical segments of abdomen entirely black. The female is much like females of *H. tuberculifrons*, *H. simpliciceps*, *H. maculicceps*, and others having bicolorous elytra, but the male is at once distinctive. On the male the black parts are the apical three-fourths of elytra and the tip (one or two segments) of abdomen; the

[5]Lea, Trans. Ent. Soc. Lond., 1909, p. 225.

antennæ have from three to five basal joints and the tip of the eleventh pale, the others being deeply infuscated; the head and prothorax are of a slightly redder tone than the other pale parts. The excavation on its head occupies about one-third of the width across eyes, its bottom is somewhat irregular and hind margin semicircular; only the five apical joints of its antennæ are seen to be longer than wide from most directions, but from several the two preceding joints seem also to be longer than wide. On two males the metasternum is dark; on all the females it is dark, and sometimes the mesosternum as well. On many of the females the head, except at base, and upper portion of the first joint of antennæ, are more or less deeply infuscated, on some only the muzzle is infuscated, on nine specimens the head is entirely pale; on several the apical joint of antennæ is entirely dark; the dark segments of the abdomen vary in number from one to three. There are some fine punctures and strigosities behind the eyes, but they could be easily overlooked; there are no sharply defined punctures on the elytra.

One male (also from Mount Tambourine) differs from the others in having the excavation on the head larger, and at bottom with a distinct longitudinal ridge (on the others the bottom of the excavation is obscured by a mealy substance), and the antennæ entirely pale, although the basal joints are paler than the apical ones.

HELCOGASTER HACKERI sp. nov.

♂ Black; head, prothorax, and most of antennæ and of legs flavous. Sparsely clothed with white pubescence, and with a few dark hairs.

Head wide, with a large, deep, interocular excavation. Antennæ rather long, moderately serrated, apical joint almost as long as two preceding combined. *Prothorax* distinctly transverse, apex wider than base, near base with a rather wide and deep, closed depression. *Elytra* moderately long; with rather dense and minute rugulose punctures. Basal joint of front *tarsi* with a black inner comb. Length (♂♀), 2·25-3·5 mm.

♀ Differs in being larger, head smaller, without tubercles or excavation, with a shallow depression each side in front, and a shallow median line, punctures sparser and more sharply defined, and black, except that the muzzle is obscurely reddish; the antennæ are thinner and much darker, prothorax with only the base and sides pale, and narrower across apex, abdomen larger and wider, legs with hardly more than the knees pale, and front tarsi simple.

Hab.—Queensland: Bribie Island in August (H. Hacker and A. M. Lea); Brisbane in October (Hacker).—Type, *I. 11905* in South Australian Museum; cotype, *C/2307* in Queensland Museum.

One of the most interesting beetles occurring on the island. It is close to *H. foveiceps*, to which the specimens at first glance appear to belong, but on that species the sub-basal foveæ of the head leave a medio-basal space, which projects subtriangularly forwards, the projection itself longitudinally grooved; on the present species the place of the projection is taken by a rather large depression,

which appears on some specimens to extend to the base itself, although it does not do so; from the inter-antennary space a wide and uneven elevation projects subtriangularly backwards into the excavation, and from directly behind the sides of this elevation appear like two minute tubercles (on *forcicaps* a smaller median one may also be seen). I have repeatedly compared the heads of the males from many points of view, and cannot satisfy myself that the two forms belong to but one species, despite the close similarity of all parts but the head, and the curiously coloured antennæ; the females of the two species are practically indistinguishable. The middle of the base of the head of the male is usually black, but, as that part is normally concealed, the head appears to be entirely pale; the antennæ are usually entirely pale, but with the middle joints slightly darker than the others, but sometimes much darker; the tarsi and middle and hind tibiæ are usually distinctly infuscated; on the female the tip of the antennæ is sometimes black, but is usually obscurely paler than the preceding joints. The head of the male is densely punctate, but the punctures are not sharply defined, its prothorax also has fairly numerous punctures towards the sides; on the female those of the prothorax are more distinct but scarcely larger.

HELCOGASTER TRIFOVEICEPS sp. nov.

♂ Flavous; scutellum, abdomen (except tips of segments on upper surface), mesosternum, metasternum, apical half of antennæ, and parts of legs, black or infuscated. With sparse, white pubescence; denser on head and abdomen than elsewhere.

Head wide, with a rather deep, transverse, interocular depression, its posterior margin trisinuate; front with an obtuse elevation having two small tubercles posteriorly. Antennæ moderately long. *Prothorax* distinctly transverse, base much narrower than apex, near base with a large, deep, closed, transverse depression; punctures rather dense on sides, sparse elsewhere. *Elytra* rather short, dilated posteriorly; with sparse, small, rugulose punctures. Basal joint of front *tarsi* with a small black comb at inner apex. Length, 2·5-3 mm.

Hab.—Queensland: Dalby (Mrs. F. H. Hobler).—Type, *I. 12124* in South Australian Museum; cotype, *C/2308* in Queensland Museum.

The sculpture of the head, which, with the prothorax and elytra, are entirely pale, readily distinguishes this species from all previously named ones. At least four of the basal joints of antennæ are flavous, the fifth and sixth are also sometimes scarcely darker; the coxæ and bases of femora are black, the tibiæ are usually slightly infuscated in the middle. The head is opaque, owing to dense punctures; these are individually so small as to be scarcely traceable, and in addition are partly concealed by clothing; from some directions the interocular space appears to have three small foveæ connected by a curved line; from directly in front the median one is seen to be much larger than the others; from behind the two small tubercles on the interocular elevation are quite distinct.

HELCOGASTER TRISINUATUS sp. nov.

♂ Flavous; apical three-fifths of elytra, tip of abdomen, and six or seven apical joints of antennæ black, metasternum infuscated. A few dark hairs scattered about.

Head with a deep interocular excavation, its posterior end trisinuate, a large obtuse tubercle in front; with sparse and small punctures, becoming denser about base. Antennæ rather long. *Prothorax* about as long as the greatest width, base decidedly narrower than apex, a large, rather deep, transverse, closed, subbasal depression. *Elytra* moderately long, almost parallel-sided; with fairly numerous and small but (for the genus) rather sharply defined punctures. Tip of *abdomen* with two small processes. Basal joint of front *tarsi* with a small black comb. Length (♂♀), 2·5-3·75 mm.

♀ Differs in having the head smaller, a shallow fovea representing the middle of the excavation, and a feeble depression on each side, its sides; frontal tubercle much smaller and more obtuse, antennæ shorter and thinner, elytra less parallel-sided, abdomen with the tip simple, and front tarsi combless.

Hab.—Queensland: Cairns district (A. M. Lea).—Type, *I. 11949* in South Australian Museum; cotype, *C/3209* in Queensland Museum.

In my table[6] would be placed with F, from all the species of which it is distinguished by its pale head. At first glance it appears to belong to *H. punctipennis*, but the sculpture of the head of the male is different, and the elytral punctures are smaller; from the male of *H. sominigripennis* it is distinguished by the large cephalic excavation, with its base conspicuously trisinuate, the median sinus wider than the others. Six males and twelve females were obtained.

DASYTES SUBELLIPTICUS sp. nov.

Black, parts of antennæ and of legs flavous. With rather dense, depressed, ashen pubescence.

Head with small and rather dense punctures; with two feeble depressions in front. Antennæ slightly passing base of prothorax, most of the joints transverse. *Prothorax* widely transverse, base and sides finely margined; with very small punctures. *Elytra* at base scarcely wider than prothorax, sides slightly dilated to beyond the middle; with dense and small, but rather sharply defined punctures. Length, 1·75-2 mm.

Hab.—Queensland: Bribie Island (H. Hacker and A. M. Lea).—Type, *I. 12285* in South Australian Museum; cotype, *C/2310* in Queensland Museum.

A minute elliptical species, much like *D. ellipticus* on a greatly reduced scale; in my table,[7] on account of the bicoloured legs, it would be associated with *D. bourgeoisi* (now *D. julesi*), but it is much smaller and wider in proportion; in

[6] Lea, Trans. Ent. Soc. Lond., 1909, p. 215.
[7] Lea, Trans. Ent. Soc. Lond., 1909, p. 240.

size it is about equal to *D. corticarioides*. The femora are usually deeply infuscated, except at base and apex; on some specimens the front legs are almost entirely pale; the apical half, or less, of the antennæ is infuscated; on some specimens vague remnants of a subbasal depression may be seen on the pronotum, but from most of them even these are absent.

Family TENEBRIONIDÆ.

PALORUS EUTERMIPHILUS sp. nov.

Bright castaneous. Upper surface glabrous, under surface almost so.

Head moderately wide, with rather dense punctures. Clypeus with smaller punctures than on rest of head, its hind suture semicircular. Eyes small, without canthi, extreme sides only visible from above but distinct from below. Antennæ scarcely longer than their distance apart, parallel-sided except near base, third to tenth joints distinctly transverse, the eleventh almost as long as wide. *Prothorax* moderately transverse, sides rounded, distinctly dilated to near apex, and finely margined, hind angles rectangular; punctures slightly larger but otherwise as on head. *Scutellum* widely transverse. *Elytra* opaque, parallel-sided to near apex, base wider than base of prothorax, but less than its greatest width; with deep striæ containing rather shallow punctures, interstices acutely costate almost throughout. *Under surface* with dense punctures on prosternum, mesosternum, and sides of metasternum, much sparser and smaller elsewhere. *Legs* short. Length, 2·75-3 mm.

Hab.—Queensland: Townsville, twelve specimens from termites' nest, *Eutermes* sp. (G. F. Hill, No. 1033).—Type, *I. 11588* in South Australian Museum; cotype, *C/2311* in Queensland Museum.

This species should perhaps have been regarded as the type of a new genus, but I am averse from proposing new genera for inquilines except on very strong grounds. The entire absence of a club to the antennæ and the eyes not encroached upon by canthi seem to exclude it from *Tribolium*, to the species of which it bears a strong general resemblance. The antennæ and eyes, except that the latter are smaller, with their edges just visible from above, are much as in several species of *Palorus*. The dilated front of prothorax, and opaque elytra, with acute costæ, are very distinctive amongst the allied genera. The colour is an almost uniform and rather pale castaneous, the antennæ are slightly darker than the head, but the terminal joint is slightly paler.

Family MELANDRYIDÆ.

PAROMARTEON MUTABILE Blackb.

I have previously[8] commented upon this species, but as there are now before me many other specimens, including several sharply defined and more or less constant varieties, it appears desirable to name some of them. The sexes

[8] Lea, Trans. Roy. Soc. S. Aust., 1917, p. 168.

may be readily distinguished by the abdomen; in the male the middle of the apical segment is gently incurved, in the female that segment is larger, and the tip is evenly rounded. The under surface, except the prosternum, appears to be always deep black.

Var. nigripenne var. nov.—From Victoria (Dividing Range), New South Wales (Sydney and Dorrigo), and Queensland (Brisbane), there are nine specimens with the elytra entirely black or blackish, and the head usually with the basal half black.

Var. apicale var. nov.—Twenty-one specimens, from Brisbane and Bribie Island, have the apical two-fifths of elytra and the basal half of head deep black; the scutellum varies from flavous to deeply infuscated; on some of the males the hind femora are infuscated in the middle.

Var. parvum var. nov.—Four specimens, from Bribie Island, are close to the preceding variety, but are smaller (3 mm. only), and have the apical half of elytra black, but the head and scutellum entirely pale.

Var. fasciatum var. nov.—Five specimens, from Bribie Island, are very small (3-3·5 mm.), and their elytra have two black fasciæ: a complete narrow one at the apical two-fifths, and an interrupted one at the apical fifth; the hind and middle femora are partly black; in the males the head is almost entirely dark, in the females it is entirely pale.

Family MORDELLIDÆ.

MORDELLA BRIBIENSIS sp. nov.

Black; base of antennæ and parts of front legs obscurely diluted with red. Clothed with black and greyish-white pubescence.

Comparatively short. Scutellum semicircular. Pygidium rather short, its apical portion almost parallel-sided and then truncated. Spurs to hind tibiæ unequal. Length, 3-4 mm.

Hab.—Queensland: Bribie Island (H. Hacker and A. M. Lea).—Type, *I. 12132* in South Australian Museum; cotype, *C/2312* in Queensland Museum.

The pale pubescence is uniform on the head, and so placed on the prothorax as to distinctly define three black spots: a large median one and a smaller one on each side; on the elytra it forms a fairly conspicuous narrow basal edging, but elsewhere the pale hairs are scattered thinly and do not form spots; from some specimens, except at the base, they are absent; from the metasternum the pale pubescence is almost absent, and it is absent from a large spot on each side of four basal segments of abdomen. About five joints of the antennæ are transverse. The external sexual differences are feebly defined; the male has the apical portion of the pygidium more parallel-sided, and the front tarsi slightly wider, although thin. In some respects the species is close to some forms of *M. baldiensis,* and it

belongs to the same group,[9] but the pale pubescence of the prothorax bounds three sharply defined dark spots, and the pygidium is differently shaped; from the form of *M. nigrans*, with somewhat similar prothoracic markings, it is distinct by the pygidium, its narrow portion being only about half as long as on that species.

Family CANTHARIDÆ.

HORIA CEPHALOTES Oliv., Ent., iii, p. 5, pl. 1, fig. 3.

A specimen labelled "Johnstone Riv.," in Miskin's writing, is a male of this species; remarkable for its wide flat head, and conspicuous jaws. The Queensland locality, however, needs confirmation, as the species is a well-known Javanese insect.

Family OEDEMERIDÆ.

PSEUDOLYCUS HÆMORRHOIDALIS Fab., **var. MARGINATUS** Guer.

Form 5.—Three specimens from the Queensland National Park differ from the preceding four forms of this variety in having the sides of the prothorax entirely pale, the dark discal portion is wider at the base than the apex, and the elytra are blackish for a short distance from the base—near the suture on two of them there is a pale spot on each side of the base of the head.

MORPHOLYCUS COSTIPENNIS Lea.

A female of this species, from the Queensland National Park, has the red of the prothorax reduced to a small spot on each side of the base.

COPIDITA MARITIMA Lea.

A specimen, from Bribie Island, and another, from Stradbroke Island, have similar elytra to those of a specimen commented upon as in Mr. Carter's collection, except that there is a slight infuscation on each side of the scutellum; on the Bribie Island one the dark prothoracic markings are conjoined, on the other they are not conjoined across the middle. Another, from Bribie Island (a small male), has the cephalic spot larger than usual, and the derm of both scutellum and elytra entirely black.

COPIDITA TENUICOLLIS sp. nov.

♂ Flavous; three irregular lines on prothorax, elytra (except suture and extreme sides), knees, parts of tarsi and two apical joints of antennæ, black or infuscated. Densely clothed with short, ashen pubescence.

Head rather long, gently convex between eyes, with rather dense and sharply defined punctures, becoming crowded at base, and smaller in front; jaws notched at apex. Eyes large and coarsely faceted. Antennæ long and thin, most of the joints cylindrical, eleventh semi-double. *Prothorax* much longer than wide, sides slightly dilated near apex, base narrowly margined; punctures

[9] Lea, Trans. Roy. Soc. S. Aust., 1917, p. 217.

crowded and larger than on head. *Elytra* much wider than prothorax, parallel-sided to near apex; each with four discal costæ; punctures small and crowded. *Legs* long and thin; tibiæ bispinose at apex; claws each with an obtuse basal appendix. Length, 11 mm.

Hab.—Queensland: Stradbroke Island in December (H. Hacker).—Type (unique), *C.2313* in Queensland Museum.

The elytra are much as in *C. macleayi*, and the prothorax also has three dark markings, but the prothorax itself is decidedly longer and thinner, with much stronger punctures, head immaculate between eyes, and these decidedly larger, and the antennæ entirely pale. On the prothorax the dark part on each side is continuous from base to apex, and widest at the apical third, the median line is thinner, shorter and irregular; the pale sutural portion is slightly wider than the scutellum at the base, and becomes very narrow posteriorly.

COPIDITA NIGRIPENNIS sp. nov.

♂ Flavous, elytra blackish with a vague bluish gloss, parts of tarsi and three spots on prothorax slightly infuscated. Rather densely clothed with ashen pubescence, more conspicuous on elytra than elsewhere.

Head rather long, with dense sharply defined punctures, becoming smaller in front; jaws notched at tips. Antennæ long and thin, second to sixth joints cylindrical (the following ones missing). *Prothorax* long and thin, sides somewhat dilated near apex, base margined and bisinuate; punctures crowded and slightly larger than on head. *Elytra* much wider than prothorax, parallel-sided to near apex, each with four discal costæ, of which the third is scarcely traceable; with crowded and mostly rugose punctures, but many sharply defined. *Legs* long but not very thin; tibiæ unispinose at apex; claws thin, each with a small basal appendix. Length, 10 mm.

Hab.—Queensland: Bribie Island (H. Hacker).—Type (unique), *C.2314* in Queensland Museum.

In some respects close to *C. mira*, but prothorax longer and less dilated in front, and palpi normal; from the preceding species it differs in having the legs thicker, with only parts of the tarsi infuscated, the tibiæ unispinose, and less of elytra pale; the three faint infuscations on the prothorax are across the apical third; the suture is very obscurely and narrowly diluted with red.

DOHRNIA SEMIFLAVA sp. nov.

♀ Black and flavous. Head and prothorax rather sparsely clothed, elsewhere with short, dense pubescence.

Head gently convex between eyes, shallowly depressed in front; with dense and rather small but sharply defined punctures; jaws notched at apex. Eyes rather long and finely faceted. Antennæ long and thin, the joints cylindrical. *Prothorax* about as long as the greatest width (near apex), a

narrowly impressed line (dilated in middle) across base, and a shallow depression across apex: punctures as sharply defined as on head, and slightly larger. *Elytra* much wider than prothorax, parallel-sided to near apex, each with four discal costæ; punctures crowded and usually sharply defined, but some transversely confluent. Length, 6-7 mm.

Hab.—Queensland: Brisbane (H. Hacker); Glen Lamington (Dr. E. Mjoberg).—Type, *C/2315* in Queensland Museum; cotypes, *I. 12241* in South Australian Museum, and in Stockholm Museum.

Referred to *Dohrnia* on account of the eyes. The flavous parts of the type are the head between the muzzle and eyes, base of six first joints of antennæ, and under surface of the first two, palpi (except the tips), prothorax (both surfaces), scutellum, basal half of elytra, and legs (except tips of middle and of hind tibiæ, and the middle and hind tarsi, which are infuscated). The specimen in the South Australian Museum is like the type, except that the hind femora are also infuscated; the other cotype has the legs (except the front coxæ) and antennæ entirely dark, and with slightly less of the elytra pale. On all three specimens the dark parts usually have a metallic gloss; only two of the discal costæ are at all distinct on each elytron.

Family CURCULIONIDÆ.

EUOPS TUBERCULATUS sp. nov.

♀ Black, in most parts with a slight purplish gloss.

Head with sparse and irregularly distributed punctures. Eyes large, almost touching in middle. Rostrum rather short, dilated and finely serrated at apex, and narrowed to base. Antennæ short; club stout, about the length of six preceding joints combined. *Prothorax* about as long as basal width, narrowed to apex, a distinct bisinuate punctate line near base, a shallow transverse impression on each side at apical third, a rather large but obtuse tubercle in front of each; sides with distinct punctures, upper surface almost impunctate. *Elytra* not much longer than wide, much wider than prothorax; with somewhat irregular rows of fairly large punctures; third interstice at basal third with an obtuse tubercle, between it and base shallowly depressed, sixth interstice with a small obtuse tubercle at summit of apical slope; each shoulder with an acute conical tubercle, projecting outwards. *Abdomen* irregularly punctate and strigose, four basal segments each with a short, hairy, double stripe across middle; pygidium with rather large punctures on most of its surface. *Femora* stout; front tibiæ bisinuate on lower surface. Length, 3 mm.

Hab.—Queensland: National Park in December (H. Hacker).—Type (unique), *C/2316* in Queensland Museum.

Readily distinguished from all other Australian species by the tuberculate upper surface, with armed shoulders.

Family CHRYSOMELIDÆ.

CHALCOLAMPRA TENUIS Lea.

Mr. Hacker has taken several specimens of this species in the National Park, near Brisbane, and these have the elytral markings not in the form of four abbreviated fasciæ connected with the suture only, but the three apical ones are connected at their outer edge as well, so that there are two pale elliptical spots on each side of the suture (one postmedian and one subapical); on one specimen the two basal fasciæ are free externally, and on another the three apical fasciæ are not quite connected externally, so that the spots are not entirely enclosed.

DITROPIDUS DAVISI Saund.

This species is abundant in South Australia and is very variable in size and markings; the length ranges 2·25-3·75 mm.; the width, apart from sex, also varies, the smaller specimens being decidedly narrower than the larger ones. The male is narrower and less robust than the female, its abdomen is smaller, nonfoveate, incurved to the middle, and with the tips of the pygidium slightly produced forwards; the seriate punctures on the elytra are really rather small, but owing to "waterlogging" appear to be decidedly large; their true sizes may be seen from an oblique direction. All the forms have the intercoxal process of the prosternum semicircularly emarginate posteriorly, with the hind angles sharply produced; the legs and parts of the under surface are also variable, but, disregarding these, some of the forms before me are as follows:—

Typical.—On this form (a rather rare one) the prothorax is immaculate, the head is dark at the base, and the elytra have the base, apex, and suture dark, so that each elytron has a large pale spot, but each spot is sometimes greatly reduced in size and sharpness. *Hab.*—New South Wales and South Australia.

Var. A.—Like the typical form, except that the head is entirely pale; on one specimen the elytral spots are greatly reduced in size and brightness. *Hab.*—South Australia (Ooldea and Port Lincoln).

Var. B.—Like the typical form, except that it is not quite so wide, and that the prothorax has a transverse black or blackish fascia extending almost to its sides; the fascia varies from about one-third the length of the segment to covering its entire surface except for narrow edgings, occasionally it actually touches parts of the sides; the elytral spots on such specimens are usually greatly reduced in size, and the black part of the head is greatly extended; on one specimen of it the prothoracic fascia appears as three semi-detached spots; on another the fascia appears as a slight and rather narrow infuscation. *Hab.*—South Australia.

Var. C.—Like the preceding variety, except that the prothoracic fascia is broken up into two spots. *Hab.*—South Australia (Adelaide and Lucindale).

Var. D.—Prothorax entirely dark, head dark except for parts of muzzle;

a fairly large but ill-defined pale spot on each elytron; one female of the variety is still attached to a male of B; another female has a part of the scutellar lobe pale; one male from Gladstone (Queensland) of the variety agrees perfectly in outlines with the typical male, but has distinctly coarser punctures on both prothorax and elytra; its elytral spots are very obscurely defined, and the legs and prosternum are almost entirely dark. *Hab.*—Queensland, New South Wales, South Australia.

Var. E.—Head and prothorax coloured as on the typical form, but elytra with the red extended to cover most of the surface, excluding a rather narrow but somewhat zigzag strip at the base; the suture is also very narrowly dark, but near the apex the dark part is dilated to form an oval spot; the apex, however, is entirely pale. *Hab.*—Queensland (Charters Towers).

Var. F.—Head and prothorax entirely pale reddish flavous, except that the base of the latter is very narrowly black; elytra flavous, the base and suture very narrowly black, a narrow part of the apex black, but the black part slightly advanced along the suture and sides, so as to be strongly bisinuate on its inner edge. On this variety, except for the claws, the legs are entirely pale. *Hab.*—South Australia (Moonta).

There are other varietal forms before me, but I have not considered it advisable to attach letters to those of which I have seen but one specimen. It is probable that several published names will have to be treated as synonyms of the species.

DITROPIDUS IGNITUS sp. nov.

♂ Brilliant coppery red, in places coppery green, under surface and legs black, with a bluish gloss; labrum and basal half of antennæ reddish. Under surface and legs with rather sparse pubescence.

Head with sharply defined punctures of medium size; median line distinct. Eyes separated about the length of two basal joints of antennæ. *Prothorax* at base more than twice as wide as the median length, sides strongly rounded; with dense, sharply defined, and not very small punctures. *Elytra* not much longer than the basal width, which is almost twice that of the apical; with rows of not very large punctures, on the sides set in deep striæ; interstices with small and fairly numerous punctures. *Legs* moderately stout, front ones slightly longer than hind ones. Length (♂♀), 2·5-3 mm.

♀ Differs in being slightly more robust, eyes about one-third more distant from each other, elytra less narrowed posteriorly, legs somewhat thinner, the front ones no longer than the hind ones, and in the abdomen.

Hab.—Queensland: Cairns (E. Allen); Bowen (Aug. Simson).—Type, *I. 10925* in South Australian Museum; cotype, *C/2317* in Queensland Museum.

A beautiful, briefly oblong-elliptic species, in general appearance close to *D. venustus* and fairly close to *D. costatus*, but distinguished from both by the non-strigose sides of prothorax; the punctures there are not even confluent, and

are mostly slightly smaller than those in the middle. The eyes of the male are more widely separated than in the male of *D. doria*. From some directions the head appears coppery red, from others coppery green; from some the prothorax appears coppery green throughout, but usually only the sides appear to be of that colour; the scutellum and tips of elytra, the latter varying with the point of view, are also coppery green; the pygidium similarly varies from coppery green to coppery red. In some lights most of the upper surface of some specimens appears purple. The seriate punctures on the elytra are about as long as those on the prothorax, but narrower.

Vars.—One male has the head, prothorax, and pygidium purple, the prothorax in some lights with a bluish gloss, its scutellum and elytra are bright coppery green, except the tips of the latter, which are purple, its tibiæ are obscurely diluted with red in parts; a female mounted with it has the head and prothorax coppery green, the muzzle of the former and the sides of the latter purplish in some lights, its elytra are deep blue, with the sides and punctures purplish, the purple from some directions appearing to cover almost the whole surface, its pygidium is blue and purple. The only specimen from Bowen, in the Museum, is a male, and has the whole of the upper surface and pygidium deep blue, altering to purple; from some directions the prothoracic specimens have a coppery glitter (as on *D. striatipennis*); its head is slightly pubescent. The bluish specimens differ from the description of *D. caruleseens* in the colour of the clypeus and legs, and in the punctures of the prothorax.

DITROPIDUS SOLITUS sp. nov.

♂ Black with a bronzy gloss, basal half of antennæ reddish, the apical half infuscated or black, labrum and basal half of front femora obscurely reddish. Head, under surface, and legs with sparse pubescence.

Head with dense punctures at base and on clypeus. Eyes large and close together. *Prothorax* as wide at apex as along the middle, with fairly dense and rather small but sharply defined punctures in middle, becoming larger but not confluent on sides. *Elytra* subquadrate; with rows of rather large punctures, becoming larger and set in deep striæ on the sides; interstices with very minute punctures. Front *legs* slightly longer than hind ones. Length (♀♂), 2-2·25 mm.

♀ Differs in being more robust, elytra less narrowed posteriorly, and with smaller seriate punctures, front legs no longer than hind ones, and abdomen foveate.

Hab.—South Australia: Mount Lofty (S. H. Curnow, A. H. Elston, and J. G. O. Tepper); New Mecklenburg and Adelaide (Tepper); Moonta and Kilkerran (Blackburn's collection No. 1318); Parachilna (Natural History Expedition, 1917); Quorn (Elston). Victoria: Dividing Range (Blackburn). New South Wales: Sydney (Dr. E. W. Ferguson and A. M. Lea); Forest Reefs (Lea).—Type, *I. 10846* in South Australian Museum; cotype, *C/2318* in Queensland Museum.

A feebly metallic species, with eyes close together, those of the male being separated slightly less than the length of the basal joint of antennæ, in the female about equal to that of the two basal joints; on many specimens the bronzy gloss is hardly in evidence, on some the prothorax has a distinct coppery gloss; the front legs are often entirely dark, and occasionally the labrum is conspicuously red. The punctures at the apex of the prothorax are sometimes almost as coarse as those on the sides; the metasternum is shining, and with sparse, sharply defined punctures in the middle, but the sides appear shagreened, owing to the dense and somewhat asperate punctures there. It is close to *D. quadratipennis*, but is smaller, less metallic, with smaller punctures and interocular space not quite the same; also about the size of *D. odewahni*, but with coarser punctures, darker legs, and eyes much closer together.

DITROPIDUS TROPICUS sp. nov.

♂ Black, basal half of antennæ and sides of labrum reddish. Head, under surface, and legs with sparse white pubescence.

Head with rather dense partially concealed punctures, median line rather distinct. Eyes rather close together. *Prothorax* not twice as wide as the median length, sides strongly rounded; with dense and sharply defined but not very large punctures, becoming larger but not confluent on sides. *Elytra* subquadrate; with series of rather large punctures, on the sides set in deep striæ, the interstices between which are costiform posteriorly, the other interstices impunctate or almost so. Front *legs* scarcely longer than hind ones. (Length (♂♀), 2-3 mm.

♀ Differs in being more robust, elytra less narrowed posteriorly, and with smaller punctures, legs slightly shorter and thinner, and abdomen foveate.

Hab.—North-west Australia (Blackburn's collection); Roebuck Bay (H. H. D. Griffith, his No. 3304, and C. French). Queensland: Thursday Island (G. E. Bryant); Cairns (E. Allen); Bowen (Aug. Simson, his No. 88).—Type, *I. 10903* in South Australian Museum; cotype, *C/2319* in Queensland Museum.

A feebly metallic species, that appears to occur in abundance at Roebuck Bay; the upper surface usually has a vague bluish gloss, the prothorax, especially in the females, occasionally has a faint coppery one. The distance between the eyes of the male is slightly more than the length of the basal joint of antennæ, in the female it is about one half more; the female is usually larger than the male. It is very close to *D. solitus*, but the eyes are not quite so close together, sex for sex, the eyes of the male being about as far apart as those of the female of that species, the prothoracic punctures are somewhat different, and those of the metasternum are larger and more sharply defined on the sides; in general appearance it is like *D. striatopunctatus* but the sides of the prothorax are nonstrigose; from *D. lobicollis* it differs in being smaller, eyes of male slightly closer together, and prothoracic punctures more sharply defined in the middle;

it is also smaller than *D. quadratipennis*, much less metallic, and prothoracic punctures differ; *D. pygidialis* has much smaller punctures on head and prothorax, and eyes more widely separated.

DITROPIDUS VICARIUS sp. nov.

♂ Black, upper surface bronzy or coppery bronze, basal half of antennæ obscurely reddish. Glabrous.

Head shagreened, and with fairly dense but feeble punctures; median line vaguely impressed. Eyes rather widely separated. *Prothorax* about thrice as wide as the median length, sides strongly rounded; punctures fairly dense and rather sharply defined but small, becoming still smaller on sides. *Elytra* rather short; with rows of very small punctures, becoming larger and set in moderately deep striæ on the sides. Length (♂♀), 1·5-2 mm.

♀ Differs in the usual particulars of the eyes, legs, and abdomen.

Hab.—North Queensland (Blackburn's collection); Cairns (E. Allen). New South Wales: National Park and Ourimbah (G. E. Bryant); Sydney (A. M. Lea).—Type, *I. 10865* in South Australian Museum; cotype, *C/2320* in Queensland Museum.

Slightly narrower and more metallic than *D. rotundiformis*, prothoracic punctures decidedly smaller and those of sterna different; the intercoxal process of the prosternum has a few punctures in front, that of the mesosternum has a distinct transverse row, but the middle of the metasternum is impunctate. The prothorax could hardly be regarded as shagreened, although at first glance it appears to be so; on some of the specimens, from New South Wales, the pale joints of the antennæ are almost flavous.

DITROPIDUS VAGANS sp. nov.

♂ Black, sometimes with a slight bronzy gloss, basal half of antennæ flavous, the other infuscated, front legs partly or entirely pale, labrum and tarsi more or less obscurely diluted with red. Glabrous.

Head shagreened and with very minute punctures, median line scarcely traceable. *Prothorax* shagreened and with minute punctures. *Scutellum* narrow and distinct. Length (♂♀), 1·25-1·5 mm.

♀ Differs in the usual particulars of the eyes, legs, and abdomen.

Hab.—Northern Territory: Darwin, on Acacia flowers (G. F. Hill, No. 371). Queensland: Cairns, Charters Towers (Blackburn's collection); Brisbane (E. M. Hockings). New South Wales: Blue Mountains (Blackburn); Wentworth Falls (Simson's collection); Sydney (Dr. E. W. Ferguson and A. M. Lea); Galston, Como, and Windsor (Lea). South Australia: Port Lincoln (Blackburn and Lea); Murray Bridge (Lea); Quorn (A. H. Elston).—Type, *I. 10875* in South Australian Museum; cotype, *C/2321* in Queensland Museum.

The outlines, eyes, and punctures of sterna are as described in the preceding species, but it is less metallic, the prothorax as well as the head is shagreened, and the seriate punctures on the elytra are different; they are small, narrow, and so close together that the elytra might fairly be regarded as striated throughout; on the sides, however, the striæ are deep and well-defined as on most species of the genus. In general appearance it is somewhat like large specimens of *D. punctulum*, but is more oblong, scutellum narrower and more distinct, prothorax less opaque, although shagreened, and with more distinct punctures, and parts of front legs pale; these are sometimes entirely flavous, or at least decidedly paler than the others; occasionally the knees are infuscated and sometimes the femora are entirely dark; on one specimen from Cairns all the tibiæ are pale. The punctures on the prothorax, although minute, are sufficiently distinct on close examination, but on the head they are almost invisible.

Var. DUBIUS var. nov.

Some specimens (sexes) are structurally so close to this species that I have not ventured to give them more than a varietal name. They differ in being slightly more rounded, prothorax with scarcely visible punctures, and polished but becoming subopaque on sides; the legs are all black, or at least very obscure.

Hab.—New South Wales: Sydney (W. du Boulay and G. E. Bryant); Illawarra (Bryant); Hornsby (C. Gibbons).

DITROPIDUS BREVICOLLIS sp. nov.

♂ Black; head, antennæ (club infuscated), palpi, and legs more or less flavous. Glabrous.

Head subopaque and with scarcely visible punctures, median line very feeble. Eyes close together. *Prothorax* more than thrice as wide as the median length, sides strongly rounded; punctures minute. *Elytra* about as long as the basal width; with rows of distinct punctures, becoming smaller posteriorly, and on the sides set in deep striæ. Length (♂♀), 1·75-2 mm.

♀ Differs in being more robust, infuscation of head extended to cover clypeus, elytra less narrowed posteriorly, and abdomen foveate.

Hab.—North Queensland (Blackburn's collection); Cairns district (A. M. Lea).—Type, *I. 10866* in South Australian Museum; cotype, *C/2322* in Queensland Museum.

The eyes are closer together than in any of the preceding small species; the distance between them in the male is slightly less than the length of the basal joint of antennæ, in the female it is slightly more. From *D. vicarius* it differs also in being non-metallic, prothoracic punctures smaller and legs paler: from *D. tranquillus* in having the head opaque, and lateral striæ of elytra deeper. The legs are often entirely pale, but frequently the hind femora, and sometimes the middle ones as well, are deeply infuscated. Some specimens,

from Cairns, differ in having scarcely visible prothoracic punctures, and legs more brightly flavous. A female, from Mount Tambourine, possibly belongs to the species, but differs from normal females in having slightly larger punctures on prothorax (although still small), and legs black, with the tarsi brown.

Var. ?—Twelve specimens (Northern Queensland and Bundaberg, Blackburn's collection; Cairns district, F. P. Dodd; and Kuranda, H. Hacker) are so extremely close in general appearance to this species (they even differ sexually in the colour of the head), that it seems undesirable to name them as distinct, but they certainly have the eyes more distant, those of the male being as widely separated as in the female of the typical form, and those of the female about one-third more than in its female; placing specimens side by side, the differences are at once apparent. One male has the prothorax reddish, with its middle infuscated.

DITROPIDUS OPACICEPS sp. nov.

♂ Black; clypeus, labrum, basal half of antennæ, palpi, and parts of legs, more or less obscurely flavous or reddish. Glabrous.

Head shagreened and with very minute punctures; median line feeble. Eyes rather widely separated. *Prothorax* about thrice as wide as the median length, sides strongly rounded; punctures sparse and minute. *Elytra* subquadrate; with rows of fairly distinct punctures, becoming smaller posteriorly and on the sides set in fairly deep striæ. Length, (♂♀), 1·75-2 mm.

♀ Differs in being more robust, clypeus darker than labrum, and in the usual particulars of the eyes, legs, and abdomen.

Hab.—New South Wales: Sydney, Galston, Como. Queensland: Mount Tambourine (A. M. Lea); Dalby (Mrs. F. H. Hobler); Bribie Island (H. Hacker and Lea)—Type, *I. 10930* in South Australian Museum; cotype, *C/2323* in Queensland Museum.

The outlines and general appearance are almost as in the preceding species, but the prothorax is almost—on some specimens quite—impunctate, and the distance between the eyes, sex for sex, is about twice as great; the prothorax and shagreened head readily distinguish the species from *D. tranquillus*. The legs are sometimes entirely pale, but usually the femora, or at least the hind ones, are deeply infuscated; the head could hardly be regarded as reddish, but it is not of the deep shining black of the prothorax. The prosternum and metasternum are fairly densely punctate in the middle, the metasternum is shining and sparsely punctate there. The distance between the eyes of the male is about equal to the length of the five basal joints of antennæ; in the female it is about one-fourth more. The only specimen from Mount Tambourine has darker legs than usual, and the middle of its labrum is infuscated.

GELOPTERA TETRASPILOTA Lea.

A specimen of this species, from the Queensland National Park, has an infuscate spot on the suture between the two large median spots, and these are almost connected with the sides.

EDUSA DECEMLINEATA sp. nov.

♀ Dull coppery bronze, elytra somewhat purplish, under surface more shining; labrum, basal half of antennæ, basal joints of palpi, and parts of legs reddish. Densely clothed with short, ashen or white pubescence, on the elytra forming ten distinct lines.

Head shagreened and with minute punctures, distinct only on front of clypeus, median line feebly impressed and confined to basal half. Antennæ long and thin. *Prothorax* shagreened and indistinctly punctate. *Elytra* densely and finely granulate-punctate, with larger, but not confluent, punctures scattered about, and forming geminate rows. *Femora* stout, front pair acutely dentate. Length, 5·25-5·75 mm.

Hab.—New South Wales: Dorrigo (Dr. R. J. Tillyard).—Type, *C/2324* in Queensland Museum; cotype, *I. 11990* in South Australian Museum.

There are ten well-defined lines of pale pubescence on the elytra, each line bounded by geminate rows of punctures; the tip of the clypeus and a small space near each antenna are metallic green. To associate the species with others in my table[10] a new section would be required, as it could hardly be placed in F, as the elytra are conspicuously striped, and as they are without longer hairs it could not be referred to FF.

COLASPOIDES FASCICULATA sp. nov.

♂ Testaceous with a conspicuous brassy-green gloss; under surface, antennæ, palpi, and legs paler and not metallic; tips of seventh, eighth, and eleventh joints of antennæ infuscated.

Head with fairly dense but unevenly distributed punctures; with a shallow median line. Third joint of antennæ distinctly shorter than fourth. *Prothorax* about twice as wide as long, sides evenly rounded, all angles dentate; middle with rather sparse punctures, somewhat larger than those on head, but becoming larger and denser on sides. *Scutellum* impunctate. *Elytra* rather elongate, parallel-sided to beyond middle, with rather dense and fairly large punctures about base, more crowded and transversely confluent behind shoulders, much smaller and seriately arranged posteriorly. *Abdomen* shallowly depressed, with long straggling hairs, fourth segment carinated along middle, fifth irregularly impressed. *Legs* rather long, front femora stout and acutely dentate; basal joint of front and of middle tarsi large and slightly concave on lower surface; hind tibiæ rather thin and longer than the others, gently emarginate on lower surface near apex, a loose fascicle before the emargination, tip with a long curved fascicle; basal joint of hind tarsi shorter than the rest combined. Length (♂ ♀), 7-7·5 mm.

♀ Differs in being less elongate, abdomen simple, legs shorter, hind tibiæ simple, and basal joint of front and middle tarsi shorter, and much thinner.

[10] Lea, Trans. Roy. Soc. S. Aust., 1915, p. 193.

Hab.—Queensland: Blackall Range.—Type, male and female, *C/2325* in Queensland Museum; cotype, male, in South Australian Museum.

With the general outlines and appearance of *C. tarsalis* and *C. picticornis,* with which it would be associated in my table,[11] but readily distinguished from those and all other described species by the shape and clothing of the hind tibiæ of the male; the third-sixth joints of antennæ of the male have some rather long hairs on the under surface; the tips of the antennæ of the female are missing, and only its eighth joint is infuscated.

MACROGONUS QUADRIVITTATUS Jac.

Of sixteen specimens of this species before me five have the elytra purple or blue, except that the margins and suture are narrowly flavous: on the others the blue (sometimes almost black) part of each elytron is divided into two by a flavous vitta, the vitta narrow and hardly passing the middle on some specimens, wider and almost touching the apex on others; on twelve the basal spot of the head is divided by a narrow longitudinal vitta, on the others the spot is divided into four parts, each of which is hardly more than a stain.

MACROGONUS BIFOVEICOLLIS sp. nov.

♂ Flavous, elytra dark blue or greenish blue, tarsi coppery green, second to fifth joints of antennæ metallic blue or coppery green, the following ones opaque purple, tips of mandibles blackish.

Head with a fairly deep interocular impression, connected with the base by a distinct median line; punctures sparse, irregular, and mostly small. *Prothorax* about twice as wide as long, each side with a large obtuse median tooth, front and hind angles slightly armed, between median and hind teeth a deep notch; with a large, somewhat transverse, deep fovea on each side of middle; punctures sparse and rather small, but sharply defined. *Scutellum* triangular, slightly longer than wide. *Elytra* much wider than base of prothorax; each with four irregular foveæ: two on the sides behind the shoulder, one halfway between the front one of these and the suture, the other slightly nearer the second marginal fovea than the suture; with regular rows of rather small punctures. Length (♂♀), 10·5-11·5 mm.

♀ Differs in having the prothorax smaller and less transverse, sides gently rounded and unarmed in middle, notch near hind angles less pronounced, disc nonfoveate, and with slightly larger punctures; elytra with lateral foveæ not traceable, and the others smaller, antennæ and legs slightly shorter and thinner, and knees and most of tibiæ dark.

Hab.—Queensland: Mount Tambourine (H. Hacker, Nos. 741 and 742, R. Illidge, and A. M. Lea).—Type, *I. 4771* in South Australian Museum; cotype, *C/2326* in Queensland Museum.

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[11] Lea, Trans. Roy. Soc. S. Aust., 1915, p. 279.

Of four males before me three have most of the abdomen infuscated, but on the other, and on four females, it is no darker than the rest of the under surface. The medio-lateral tooth on the prothorax of the male is somewhat larger but less acute than on *M. quadrivittatus*; the male is unmistakably a *Macrogonus*, but I am unable to point out how the female may be distinguished from *Macroloma*.

Family EROTYLIDÆ.

LANGURIA ALBERTISI Har.

L. vulgaris Har.

L. vandepolli Fowler.

L. australis Macl.

The species of *Languria* so abundant in the Cairns district (it occurs also at Bowen, Cooktown, and Melville Island, and there are specimens in the South Australian Museum from the Madang district of New Guinea, and from Aru) has the head and prothorax red, and elytra black, with a bluish or purplish gloss; the antennæ and legs are black and the mesosternum, metasternum, and abdomen are black or deeply infuscated; this is the most common form, and has been named *vulgaris*, *vandepolli*, and *australis*. On 28 specimens before me the under surface is red, and the legs and antennæ partly red, agreeing with the form named *albertisi*; the differences are probably due to immaturity, as the two forms occur freely together, and there are others before me in which the normally black parts are infuscated in varying degrees. The eighth joint of the antennæ is slightly larger than the seventh, but distinctly smaller than the ninth; on the males being produced slightly to one side, it might fairly be regarded as part of the club, but on the females it evidently could not be so regarded; in *albertisi* the club was described as three-jointed, and in *vulgaris* as four-jointed, but I believe these names to belong to but one species. Blackburn has already noted *vandepolli* as a synonym of *vulgaris*, and *australis* has now to be noted as another. The size ranges 2-4.5 mm.

In Wytsman's Genera Insectorum, Fasc. 78, in which the Langurides are dealt with by Fowler, *albertisi* was referred to *Stenodastus*, *vulgaris* to *Cœnolanguria*, *vandepolli* to *Anadastus*, and *australis* was overlooked. Of the other species recorded from Australia *L. militaris* has the suture reddish (of 121 specimens of *albertisi* before me not one has the suture reddish), and *L. picea* has the head and prothorax nigropiceous (several specimens of *albertisi* have the head infuscated at base).

EPISCAPHULA OPACA Crotch.

A remarkably distinct species, the curved red mark on each shoulder is sometimes entire, but is usually broken up into two parts; on one specimen the markings are reduced to a dull spot on the shoulder, and another near apex of each elytron, the spots so dark that, to the naked eye, the upper surface appears entirely black. Specimens before me are all from Queensland: Cairns, Port Curtis, Bowen, and Bluff.

EPISCAPHULA BIFASCIATA Macl.

Macleay described the elytra of this species as "finely striate-punctate"; on the flavous fasciæ (these become reddish with age) the series of punctures, through "waterlogging," sometimes appear as fairly distinct, but they are really so small that where not waterlogged they are scarcely visible. There is a specimen of the species, from Aru, in the South Australian Museum, with the prothoracic spots smaller than usual, but in other respects agreeing well with typical specimens from Cairns.

EPISCAPHULA AUSTRALIS Boi.

E. froggatti Macl., var.

On the typical and common form of *E. australis* the elytra, as described by Boisduval, have nine black spots: three basal, three antemedian, two postmedian, and one apical; but in a fairly common variety named *froggatti* by Macleay, and figured by Kuhnt[12] the antemedian spots are combined to form a zigzag fascia. The series of punctures on some specimens appear to be large and close together, but this is due to "waterlogging"; on examining such specimens from the sides the punctures will be seen to be small and distant, although fairly sharply defined. The species occurs in Northern Territory (including Melville Island), Queensland, New South Wales, Victoria, and Tasmania; and there are also many specimens of the variety *froggatti*, in the South Australian Museum, from the Madang district of New Guinea.

EPISCAPHULA BREVICORNIS Blackb.

I am unable to distinguish this species structurally from the preceding, but the prothoracic and elytral markings are more extended, and on a somewhat different plan. On the prothorax the markings may consist of a large semi-double mediobasal blotch, and an isolated spot on each side, or they may be all conjoined; on the elytra the black markings may be continuous almost to each side, or with a projection from the red portion on each elytron, so that a large black square or oblong is isolated on each shoulder, the two large black subapical spots may be completely isolated, or conjoined across the suture.

EPISCAPHULA FLAVOFASCIATA sp. nov.

Black, with flavous or reddish-flavous markings.

Head with rather dense but very small punctures. Antennæ with third joint twice as long as fourth. *Prothorax* about twice as wide as long, sides oblique, front angles acute and each with a puncture, a vague basal depression on each side of middle; with small punctures much as on head, and a few of larger size scattered about. *Elytra* with minute punctures; sutural striæ distinct only on apical third. *Abdomen* with inconspicuous coxal lines. Length, 7-10 mm.

[12] Kuhnt in Wytsman's Genera Insectorum, Fasc, 88, pl. iv, fig. 11.

Hab.—Queensland: Brisbane (R. Illidge); Mapleton; National Park (H. Hacker). New South Wales: Dorrigo (R. J. Tillyard and W. Heron); Richmond River (A. M. Lea).—Type, *I. 11767* in South Australian Museum; cotype, *C/2327* in Queensland Museum.

The markings are slightly variable, but on the types the prothorax is pale, with three large spots occupying the basal half, except for oblique lines between them and the sides, the median spot is more than twice the size of the others; the elytra have an irregular pale fascia at the basal third, touching neither suture nor sides, and another at the apical third, not quite touching the suture, continued around the sides and apex till the two parts are interrupted at the suture (on some specimens the fascia has a narrow extension on each side of the suture, so that two large black spots are isolated); the prosternum is flavous, and part of the abdomen obscurely diluted with red; parts of the legs are also obscurely reddish. Some of the specimens have the dark parts hardly more than castaneous, and on one such specimen the lateral spots of the prothorax appear as feeble infuscations. The punctures at the base of the head are larger than those in front, but are usually concealed by the overlapping prothorax; the elytra from some directions appear to have feeble rows of minute punctures, but from most directions the punctures are almost or quite invisible. At first glance the species appears close to *E. foveicollis,* but the head has much smaller punctures, the larger ones of the prothorax are mostly basal, and certainly not congested in the front angles, the outer spots are basal instead of median, the black basal marking of the elytra is continuous from side to side, instead of twice interrupted to the base, and the apical markings are different. It is also close to *E. bifasciata,* but with three basal dark spots on the prothorax instead of two, and the front angles less acute. In general appearance some of the specimens look like large ones of *E. brevicornis,* but may be at once distinguished by the longer third joint of antennæ.

EPISCAPHULA INCLUSA sp. nov.

Black, upper surface blackish purple or blackish blue; a large red mark on each elytron, commencing at the base, and almost touching the scutellum and shoulder, curved round so as almost to touch the side of the basal third, and then directed to the suture, which it almost touches just beyond the middle; parts of under surface and of tarsi reddish.

Head with fairly numerous, sharply defined, but not very large punctures; clypeal suture distinct but not deeply impressed. Third joint of antennæ twice the length of fourth. *Prothorax* at base more than twice as wide as the median length, sides diminishing in width to apex, front angles produced but not very acute, submarginal line deep from base to apex; punctures sparser and mostly smaller than on head, a few slightly larger ones in a feeble depression on each side of base. *Elytra* slightly dilated from shoulders to basal fourth; with regular rows of distinct, but not very large punctures, the interstices with much smaller ones. Coxal lines of *abdomen* well defined almost to apex. Length, 6-8 mm.

Hab.—Queensland (National Museum); Cairns (E. Allen and A. P. Dodd); Mapleton (H. Hacker). Type, *I. 11774* in South Australian Museum; cotypes, *C/2328* in Queensland and National Museums.

On several of the specimens the head and shoulders have a slight metallic-green gloss; to the naked eye the red markings of the elytra appear to be almost circular, they almost completely enclose a dark space about the size of the prothorax; on most of them the abdomen is paler than the rest of the under surface, and on several each segment, except the basal one, is darker at its extreme base and apex, so that the middle appears obscurely fasciate; on several the large apical joint of the palpi is conspicuously reddish. The species is wider than usual, and the elytral markings are very different from those of any previously named Australian one.

THALLIS PERPLEXA Blackb.

Numerous specimens from Cairns, Cooktown, Coen River, and Darnley Island, and one from Manumba in the Madang district of New Guinea, agree with the description of this species; which is possibly also *T. bizonata*, but that species was described as having the prothorax "very finely punctate" and the elytra as "very faintly striate-punctate"; on the specimens before me the prothoracic punctures are of moderate size and sharply defined, and the series of punctures on the elytra are larger than usual, and sharply defined even to the apex.

THALLIS MACLEAYI Blackb.

Readily distinguished from several somewhat similarly coloured species by the wide prothoracic margins, the spots close to the suture vary somewhat in intensity of colour; it occurs in Queensland (Brisbane and Bowen), Northern Territory (Darwin), and North-west Australia (Derby and Port George IV).

THALLIS INSUETA Crotch.

The four large spots, on the elytra of this species, vary somewhat in size and intensity, but are always conspicuous. The species occurs in Queensland, New South Wales, Victoria, Tasmania, and South Australia.

THALLIS AUSTRALIÆ sp. nov.

Dark castaneous brown, elytra with two reddish fasciæ. Densely clothed with dark pubescence, becoming almost golden on the fasciæ, in addition with numerous sub-erect hairs; under surface and legs with almost white pubescence.

Head sub-opaque, and with crowded but sharply defined punctures. Antennæ rather short, second to eighth joints sub-equal. *Prothorax* not twice as wide as long, sides gently rounded and slightly uneven; punctures much as on head. *Elytra* no wider than widest part of prothorax, parallel-sided to near apex; with regular rows of fairly large punctures, the interstices with numerous

small ones. *Prosternum* with rather coarse punctures on sides, across middle some of them transversely confluent, intercoxal process small and almost parallel-sided. *Abdomen* with coxal lines obscured by clothing. Length, 4-5 mm.

Hab.—Queensland: Cunnamulla (H. Hardcastle); Bowen (Aug. Simson, No. 554); Dalby (Mrs. F. H. Hobler). New South Wales: Narromine (Dr. E. W. Ferguson); Condobolin (H. J. Carter from — Halligan); Belltrees (S. Jackson); Albury (A. M. Lea). South Australia: Adelaide. North-west Australia: Derby (W. D. Dodd).—Type, *I. 12006* in South Australian Museum; cotype, *C/2329* in Queensland Museum.

Similar in size to and densely pubescent like *T. crichsoni*, but without a small red spot on each side of the apex, and hence the pale markings of the elytra in two series only (constant on twenty-eight specimens), the dark median fascia considerably wider, and not zigzagged, and the punctures somewhat stronger. Of the pale fasciæ the first occupies the basal two-fifths of the elytra, except for a large subquadrate patch adjacent to the scutellum (the spot is sometimes rather feebly infuscated), the second is at the apical third, the part on each elytron is convex on its anterior margin, concave on its posterior and narrowed to the suture; the under surface and legs are somewhat paler than the head and prothorax. Two of the specimens from Derby have the dark parts black; on a few of the Queensland ones they are almost black.

THALLIS MELANCHOLICA sp. nov.

Black; legs, antennæ, and palpi more or less reddish; abdomen obscurely diluted with red. Rather densely clothed with sub-erect, rusty pubescence.

Head with dense and fairly large punctures. Antennæ with fourth joint about two-thirds the length of third, and slightly longer than fifth. *Prothorax* about once and two-thirds as wide as long, apex truncated in middle, and notched near each side, sides slightly and irregularly serrated, a rather deep line near each side; punctures slightly larger than on head, becoming smaller and denser in front. *Elytra* parallel-sided to near apex, with regular rows of fairly large punctures, becoming smaller posteriorly; interstices with numerous distinct but rather small punctures. Intercoxal process of *prosternum* moderately wide, obtusely pointed. *Abdomen* with coxal lines traceable to beyond middle of basal segment. Inner edge of front *tibiæ* minutely serrated. Length, 7-9 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). New South Wales: Blue Mountains (Dr. E. W. Ferguson); Mount Wilson, Eden (H. J. Carter); Galston (D. Dumbrell and Lea); Sydney (J. J. Walker and Lea). Tasmania (Aug. Simson, No. 3825); Hobart (Lea).—Type, *I. 12009* in South Australian Museum; cotype, *C/2330* in Queensland Museum.

Although the derm of the majority of the specimens is of a shining black, it appears, to the naked eye, more or less dark rusty brown, owing to the pubescence; some of the specimens, however, are really rusty brown with the abdomen paler,

but this is probably due to immaturity. The prosternum and outlines are much as in *T. insucta* and *T. venustula*. One of Mr. Carter's specimens was labelled as from West Australia.

EUXESTUS VULNERATUS sp. nov.

Black, a large basal patch on elytra red, muzzle and under surface castaneous, legs and antennæ flavous. Upper surface with sparse, sub-erect pubescence.

Head evenly convex; with small but sharply defined punctures; a shallow depression on each side of clypeal suture. Antennæ short, club large, slightly wider than long. *Prothorax* at base about thrice as wide as the median length, base bisinuate, apex evenly incurved to middle, margins very narrow, punctures as on head. *Elytra* with outlines continuous with those of prothorax, widest at about basal third; with rows of small punctures. *Abdomen* with coxal lines traceable to near apex of basal segment. Length, 1·75-2 mm.

Hab.—Queensland: Little Mulgrave River (H. Hacker); Cairns (C. J. Wild).—Type, *I. 12015* in South Australian Museum; cotype, *C/2331* in Queensland Museum.

A briefly elliptic, strongly convex species, very distinct by a large blood-red patch on the elytra; it covers part of the base (leaving a rather narrow strip of black on each side), then extends rather narrowly to each side, from there its margin extends obliquely towards the suture, and then is truncated across the suture itself, at the middle (on some specimens its posterior margin is rounded); the tips of the elytra are usually obscurely diluted with red, and the dark parts sometimes have a coppery gloss. On one specimen the large patch is flavous, and the apex of the elytra is conspicuously pale. The clothing of the upper surface appears to be easily abraded, as several of the specimens are now almost glabrous. The elytral punctures are all small, but are fairly distinct on the paler parts.

EUXESTUS BIVULNERATUS sp. nov.

Black, a large blood-red spot on each shoulder, legs, antennæ, palpi, and elytral epipleuræ reddish flavous. Glabrous. Length, 2-2·25 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea).—Type, *I. 11784* in South Australian Museum; cotype, *C/2342* in Queensland Museum.

Structurally extremely close to the preceding species, but slightly larger, elytral markings, which are of the same blood-red colour, extending from each side to about one-third from the suture, so as to resemble an interrupted fascia; clypeal impressions deeper and punctures smaller, especially on the prothorax and elytra. The dark parts of the upper surface, on ten specimens, are deep polished black, but on another they have a slight coppery gloss; the extreme tips of the elytra are sometimes obscurely diluted with red. The coxal lines are distinct, and enclose a plate on each side, but these are without punctures.

Var.—A specimen, from Wollongong, possibly belongs to this species, but has the elytral markings smaller and much less distinct, appearing as a rather obscure spot on each shoulder.

EUXESTUS PARKI Woll.

Black; head, tips of prothorax, elytra, and under surface (except metasternum) more or less obscurely castaneous; legs, antennæ, and palpi paler. Glabrous.

Head with rather dense and small, but sharply defined punctures; a small fovea on each side of clypeus. Antennæ short; club large, slightly wider than long. *Prothorax* not thrice as wide as the median length, base feebly bisinuate, apex almost straight, margins very narrow; punctures rather less dense, but otherwise as on head. *Elytra* with outlines continuous with those of prothorax; with feeble rows of small punctures; interstices with punctures as on prothorax. *Abdomen* with coxal lines inconspicuous. Length, 1·75-2 mm.

Hab.—Queensland: Mulgrave River (H. Hacker); Cairns (A. M. Lea).

More evenly elliptic and slightly less convex than either of the preceding species, and about one-fourth narrower in proportion; at first glance it resembles several species of *Paracymus* and other small Hydrophilidæ. On several specimens the elytra are obscurely diluted with red about the extreme tips, but on a few the red almost covers the apical third, although not sharply limited.

A specimen from New Ireland (Edgar R. Waite) is a trifle larger than Queensland specimens, but I can find no other distinctions.

DIPLOCŒLUS MAXIMUS sp. nov.

Blackish brown; legs, antennæ, and palpi obscurely reddish. Moderately clothed with short, depressed pubescence, becoming denser and paler on under surface; upper surface, in addition, with moderately long, erect, reddish setæ.

Head with fairly numerous moderate and small punctures; a deeply impressed transverse line near base. Antennæ rather short; club three-jointed, apical joint about once and one-half the length of ninth or tenth. *Prothorax* about twice as wide as long, sides evenly rounded with margin thickened, hind angles rectangular, front angles acute and produced, rest of apex straight, each side with three impressed lines, the outer continuous and within the thickened margin, the next continuous, the other shallow in front, interrupted in middle, and deep and wide at base, near base with a deeply impressed sinuous line, with a short median projection; punctures sharply defined and somewhat sparser than on head, except on margins, where they are crowded. *Elytra* almost parallel-sided to near apex; with rows of fairly large, sub-oblong punctures, becoming smaller and rounded towards suture and posteriorly; interstices each with a row of distinct punctures, and with smaller ones scattered about. Length, 8-9 mm.

Hab.—Queensland: Cairns district (H. Hacker and A. M. Lea).—Type, *I. 11787* in South Australian Museum; cotype, *C/2076* in Queensland Museum.

Close to *D. leai*, but distinctly larger, less hairy, and as a result the punctures appear more distinct and the derm shinier, with the median line of the prothorax not traceable throughout, but represented by a short impression joining the basal line. The setæ on the elytra, when viewed from behind or in front, are seen to be in regular lines, rows of longer ones on the interstices alternating with somewhat shorter ones set in the seriate punctures.

DIPLOCŒLUS SERICEUS sp. nov.

Blackish; legs, antennæ, and palpi obscurely reddish. Densely clothed with short, depressed, brownish or greyish sericeous pubescence; upper surface, in addition, with dense, fairly long, erect, reddish setæ.

Head with fairly large but partially concealed punctures, a transverse impressed line at base. Antennæ slightly passing base of prothorax; club three-jointed, apical joint almost as long as the two preceding combined. *Prothorax* about twice as wide as long, sides strongly rounded, front angles produced, rest of apex straight, with three deep somewhat curved lines on each side, a deeper and somewhat sinuous line across base; punctures minute, and more or less concealed. *Elytra* with sides gently rounded, widest at about basal third; with rows of fairly large, sub-oblong punctures, becoming much smaller and rounded near suture; interstices with minute punctures. Length, 7-7·75 mm.

Hab.—Queensland: Coen River (W. D. Dodd); Cairns district (A. M. Lea).—Type, *I. 11788* in South Australian Museum; cotype, *C/2075* in Queensland Museum.

About the size and shape of *D. leai*, but with very different clothing; the elytra have a curious mottled appearance, owing to numerous sericeous-looking patches, which alter their positions with the point of view; the arrangement of the elytral setæ is much as on the preceding species, but the pubescence is different, and the punctures are much smaller; from the prothorax, owing to the denser pubescence, they appear at first to be absent; the transverse basal line of the prothorax is also without a median projection.

Vars. ?—Two other specimens, from Cairns, probably belong to this species; they have the setæ on the upper surface much denser than on the typical form, scarcely half their length, and not at all seriate in arrangement; the pubescence has a mottled appearance, but on one of them is even denser than on the types, and on the other sparser, with the result that on one the derm appears to be sub-opaque, and on the other more polished.

DIPLOCŒLUS DILATATICOLLIS sp. nov.

Dull reddish brown or castaneous, appendages slightly paler. Densely clothed with short, depressed pubescence, denser and paler on under surface than on upper, the latter in addition with lines of short, semi-erect setæ.

Head with dense and rather small punctures; a shallow depression on each side of clypeus. Antennæ short; club three-jointed. *Prothorax* more than

thrice as wide as long, base and apex subequal, front angles slightly produced, sides strongly and evenly rounded: with ten longitudinal elevations, of which those near the sides are fairly distinct and continuous, the median ones less distinct, and almost disappearing near base; punctures dense and small. *Elytra* parallel-sided to near apex; with rows of fairly large punctures, becoming smaller towards suture; interstices with small punctures. Length, 3-3·25 mm.

Hab.—Queensland: Mount Tambourine (C. J. Wild and A. M. Lea).—Type, *I. 11791* in South Australian Museum; cotype, *C/2078* in Queensland Museum.

The sides of the prothorax are dilated so that their greatest width is slightly, but distinctly, more than that of the elytra, a character that at once distinguishes the species from *D. decemlineatus,* and from *D. fasciatus* (on some specimens of the latter the elytral markings are very feeble); from *D. latus,* which has somewhat similar prothoracic sides, it is distinguished by the much smaller punctures of the entire upper surface. On several specimens there is a slight infuscation about the middle of the elytra.

Family ENDOMYCHIDÆ.

IDIOPHYES BREVIS Blackb.

The type and only specimen of this species known to Blackburn is now in the British Museum, but numerous specimens before me appear to belong to the species, which at first glance seems to be a minute *Stenotarsus* (except for its shorter and entirely pale antennæ it resembles *S. pisoniæ* in miniature). In the generic diagnosis Blackburn stated "prosternum inter coxas sat angustum, postice vix productum," but later "I cannot satisfy myself as to whether its prosternum projects slightly or not at all clear of the front coxæ." Examining unset specimens it is difficult to see the end of the intercoxal process clearly, but on removing the prothorax from the hind body the intercoxal process appears rather acute, produced beyond the coxæ, with a notch in the mesoternum for its reception. Arrow states[13] that it belongs to the genus *Exysma,* of which Csiki in the Catalogue of Endomychidæ records species only from America; as the genus was first recorded from Central America by Gorham,[14] and two of the species figured[15] are very different in appearance from the Australian ones, I prefer to retain the name *Idiophyes* for the latter.

Hab.—Queensland: Brisbane (many specimens from wattle blossoms in July); Mulgrave River. New South Wales: Glenfield (many specimens from a nest of termites, *Coptotermes* sp.); Forest Reefs. South Australia: Adelaide (one specimen from a nest of the same species of *Coptotermes*); Kangaroo Island. Tasmania: Kempton.

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[13] Arrow, Trans. Ent. Soc. Lond., 1920, p. 3.

[14] Gorham, Biol. Cent. Amer., Col., vii, p. 145.

[15] *L.c.*, pl. vii, figs. 14 and 15 (*E. orbicularis* and *E. ?tenuicornis*).